February 19, 1975

To the Graduate Council:

I am submitting herewith a dissertation written by Roy Kyle Norris entitled "Selected Professional Competencies for Secondary Teachers of Agriculture." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Vocational-Technical Education.

George W. Wiegers, Jr., Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Vice Chancellor
Graduate Studies and Research

SELECTED PROFESSIONAL COMPETENCIES FOR SECONDARY TEACHERS OF AGRICULTURE

A Dissertation

Presented for the

Doctor of Education

Degree

The University of Tennessee

Roy Kyle Norris

March 1975

ACKNOWLEDGMENT

In an investigation of this size, the assistance and cooperation of a great number of individuals were needed. The limitation of space will not permit listing everyone who contributed to the completion of this study; however, the investigator would like to acknowledge those individuals and groups who were most directly concerned.

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ABSTRACT

Problem: This study sought answers to the following questions: (1) Which of the previously identified selected professional competencies do secondary teachers of agriculture rate as essential; (2) Having identified these competencies as essential, how often do teachers use them in their teaching; (3) Should the development of these competencies be emphasized in preservice or inservice education; (4) Should these competencies be developed in a specialized service area course or an integrated vocational-technical education course; (5) Which of the essential competencies do beginning and experienced teachers significantly disagree?

Method: A questionnaire was utilized to collect the data needed to answer the questions formulated in the problem. The preliminary questionnaire was developed from a review of the literature and professional competency studies for secondary teachers of agriculture which had been completed in the last twenty years. From this review of literature and research, a tentative list of professional competencies in the area of instruction, coordination and management was developed to present to a jury of specialists to seek their assistance in eliminating duplication, ambiguous wording and to give the questionnaire face validity. Using the jury of specialists input, a second form was completed to be field tested. The questionnaire was field tested in a graduate class for agriculture teachers where they were asked to react to the format and directions for completing the form. The questionnaire

was then completed in its final form by integrating the responses from the jury of specialists and the graduate class.

The population for the study was 2,980 secondary agriculture teachers from eight states or two from each of the four major regions in the United States. The sample was 277 beginning and 277 experienced teachers of agriculture randomly selected from the four regions of the United States based on the number of beginning teachers in each major region.

The Statistical Package for the Social Sciences computer program developed by Nie, Bent and Hull was utilized for the descriptive and associational analysis of the data collected. The findings of the study were based on 44 percent returns of the 554 questionnaires that were mailed.

Conclusions: The major conclusions of the study were: (1) all those competencies which have been previously identified as essential were not rated essential by practicing teachers of agriculture because the teachers only rated 55 of the 109 competencies essential by 70 percent or greater consensus; (2) teachers do not agree on the frequency of use of each of these competencies but agreed more on the use of the instructional competencies with 61.73 percent agreeing on daily or weekly usage; (3) the development of the instructional competencies at the preservice level received 55 percent of the preferences, but neither preservice or inservice was favored by more than 50 percent of the respondents for developing the coordination and management competencies; (4) the specialized course was favored by 66.2 percent of

the respondants for developing the competencies rated essential; (5) of the fifty-five competencies rated essential by beginning and experienced teachers, they only disagreed significantly twenty-nine times out of a possible 220 chances or 13.18 percent; and (6) when the data were broken into regions, beginning and experienced teachers disagreed least in the Pacific (California/Colorado) 1.4 percent of the time, next was the Central (Illinois/Ohio) 3.9 percent, third was the Southern (Florida/Virginia) 5.3 percent and fourth or most was the North Atlantic (New York/Pennsylvania) with 17.9 percent.

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CHAPTER I

THE PROBLEM

I. INTRODUCTION

The characteristics required to be an effective teacher have been studied for a number of years. The characteristics or competencies necessary for a vocational teacher have been defined, analyzed and summarized since the passage of the Smith-Hughes Act in 1917. Since the role of agriculture in the United States was more closely related to survival prior to 1917, the role of the agriculture teacher was being scrutinized before 1917. Descriptions of what was required to be an effective teacher were basically a list of abilities or desired characteristics. This was helpful, but somewhat less than desirable, in measurable results. These general descriptions of teachers have given way to more sophisticated descriptions which have for the most part been described as competencies. Some writers refer to performance oriented or competency-based teacher education programs as "preparation by prescription."

Most of the recent impetus for studies related to competencies or performance objectives came from three separate sources. One of these sources has been the increased interest in the area of behavioral objectives. Another source has been budgetary constraints of governmental agencies forcing them to look closer at expenditures and in education it has brought an emphasis on accountability. The third

source is an indirect effect on the second because school administrators have been forced to develop more definable and measurable programs to justify their budgets. All of these general trends lead back to preparation of the teacher in a way which they understand the new concepts of accountability.

Traditionally, teachers have been asked to take a set of prescribed courses and when these courses were completed it was assumed they had developed certain abilities or competencies. The National Commission on Teacher Education has suggested that 37.50 percent of the time be committed to general education, 16.67 to 18.75 percent for professional education and 50.0 percent of the teachers' preparation time for advanced study of subject matter in the teaching field (Drake, 1966, p. 19). The general competencies are usually met through supportive courses in the humanities and other sections in the college of education. The technical competencies have been developed through work experience or subject matter. The professional competencies were usually met in the education departments. Moss (1971, p. 58) stated:

> Unlike the acquisition of subject matter competencies, professional competencies almost invariable are acquired after the individual makes a tentative decision to prepare for teaching. But, as is the case with subject matter, professional competencies can be acquired in the work or in the school setting. The second characteristic which distinguishes among means for providing professional competencies is therefore "place of learning" (instructional setting). Some means utilize an on-the-teaching-job setting ("real" teaching-work situation). Other means employ a student-in-school setting (formal class or simulated situations), such as regular teacher education courses, seminars, micro-teaching laboratories, etc.

The work in competency based or performance-based teacher education has been pursued on a state and regional basis as far as

agricultural education is concerned. Some work has been done on a national basis which is applicable to all teachers of vocational education. Some of the studies suggest further research in the area of competency-based teacher education. A number of studies are being pursued which seek to verify and expand on some of the work done in the Model Curricula and other related research for all teachers of vocational education. This study seeks to work with beginning and experienced agriculture teachers in verifying and analyzing the process of developing some previously identified professional competencies in the areas of instruction, coordination and management.

II. STATEMENT OF THE PROBLEM

It has been suggested that our American society is undergoing change at an accelerating rate and the state of the art of teacher education is advancing at a slower rate. Teacher education programs must have the capacity to respond to change and to do so more efficiently and effectively than in the past. The congruence of theory and practice has been a concern of teacher educators for years and more recently several groups have begun to question the teacher certification process. The time-honored process of certifying teachers on a set of prescribed courses has come under severe attack from legislators, voters and professional groups interested in improving teacher performance and ultimately student progress. These and other pressure groups are pushing for improvements in teacher education through more definable and measurable standards. This is being interpreted by many as degrees or levels

of competencies with development through a performance-based teacher education program.

More specifically, there has not been a recent study which directly sought the perceptions of agriculture teachers only in determining whether competencies identified for all vocational teachers were judged essential for agricultural teachers. Although selected agriculture educators have had some input in the development of professional competencies applicable to all vocational teachers, this study used a sample of secondary teachers of agriculture to verify previously identified competencies on a broader basis and analyze them as to their need, frequency of use, when and where they should be developed.

III. PURPOSE OF THE STUDY

In an effort to ascertain the perceptions of beginning and experienced secondary teachers of agriculture about identified professional competencies in the areas of instruction, management, and coordination, teachers were selected from eight states and asked to respond to the following questions.

1. Which of the selected professional competencies do secondary teachers of agriculture rate as essential?
2. Having identified these competencies as essential, how often do teachers use them in their teaching?
3. Where should the development of these competencies be emphasized? In preservice or inservice education?
4. Should these competencies be developed in a specialized

service area course or an integrated vocational-technical education course?

5. Which of the essential competencies do beginning and experienced teachers significantly disagree?

IV. ASSUMPTIONS

1. It is sound to base teacher education programs on competencies needed by teachers to function effectively in secondary and post-secondary programs.
2. Teachers use some competencies more frequently than others.
3. The development of some of these competencies will be emphasized at the preservice level in college and others in inservice programs, graduate courses or activities on the job.
4. Teachers have a preference as to where they desire to develop professional competencies either in specialized or generalized courses.

V. LIMITATIONS

The scope of the study was restricted by the following limitations:

1. Since professional competencies deal with between 16 and 19 percent of the total teacher education program, and because this study addressed itself to half the identified areas, it will only relate to approximately 10 percent of the total teacher education program.

2. There was no attempt to determine the amount of time required to develop each competency to a specific standard or proficiency level.
3. The population included secondary school teachers of agriculture.
4. The data were secured from a cross section of beginning and experienced teachers of agriculture without regard to any difference in education or experience.

VI. IMPORTANCE OF THE STUDY

There is no question that the quality of teachers is related to the preservice and inservice education experience available to them (Warmbrod, 1970, p. 163). Using the same rationale concerning program quality, the quality of the teacher fulfilling the role of agriculture teacher has an effect on the program in the local school.

The professional staff is the major determiner of the nature, quality and effectiveness of agricultural education programs in the public schools. This will involve supervisors and teacher educators giving special attention to selection, preparation and professional improvement of teachers. With the development of new programs and the expansion of existing programs, precautions must be taken to insure that quantity and scope of programs do not take precedence over quality and effectiveness.

There has been a proliferation of studies concerning technical competence in the areas of student competencies which indirectly relates

to the technical competence of the teacher. The recent studies concerning technical competencies have followed the expanse of vocational education since the Vocational Education Act of 1963. The fragmentation and scope of the studies conducted in relation to the professional competencies necessary to be an effective secondary agriculture teacher has complicated rather than facilitated the preparation of agriculture teachers. The "Model Curricula" study at Ohio State has attempted to establish criteria for a totally integrated approach to vocational teacher education (Cotrell, 1971, p. 18). As was indicated in the statement of the problem, this study seeks to secure the perception of the practitioner to some of the professional competencies that have been identified by this exemplary project and other studies applicable to this subject.

With the rapid expansion of secondary programs and a variety of approaches to teacher preparation being examined, teacher educators in agriculture must look closely at the different approaches in teacher preparation and be prepared to justify their programs. It should be noted that secondary teachers of agriculture have traditionally been certified when they graduated from college with a bachelor's degree, but it is not inconceivable that teachers of agriculture might be certified in the future on a competency basis comparable to some of the other vocational areas rather than degree completion. The merit of such a certification approach is not a part of this study, but it behooves those in the business of teacher preparation to be prepared to implement such a program if by chance it should be forced on teacher education by other groups through legislation.

Most teacher education programs have been divided into three major areas: (1) technical; (2) general; and (3) professional. As far as agricultural education programs were concerned, they were only responsible for the professional competence because the technical competencies were developed in the colleges of agriculture and the general were developed in the college of education. Since all professional competencies are not developed at the preservice level, one of the greatest responsibilities in working with a teacher is insuring that at no point does the development of the teacher cease (Pearson, 1955, p. 10). Therefore, this study should assist in delineating between the levels of competencies which should be developed in preservice and inservice.

If teachers in preparation or on the job understand the competence they are expected to demonstrate, it should improve their performance since they could work on their deficiencies rather than fail without understanding the reason for their failure. A study of this type which refines to any degree the competence required to succeed will serve to lower the chances of failure of future teachers. An improved understanding of the skills, abilities or competence which is acceptable at different levels in a teacher's career will make it easier for teachers to plan their professional development.

Since this study was begun, an increased number of teacher education institutions have integrated some form of performance or competency-based teacher education into their programs. Many of these programs are being developed with less than desirable research base to support their change but out of the management by objective and/or accountability

syndrome which has hit college campuses faced with a reduced budget. An indication of the involvement of teacher education institutions in the performance-based teacher education is seen in the results of a national survey sponsored by the PBTE Project of the American Association of Colleges for Teacher Education. Of the 783 teacher producing institutions responding to the survey, only 228 (29 percent) indicated that they were not then involved some way in PBTE (Massanari, 1973, p. 179). With over half of the teacher education institutions involved in the performance-based teacher education, additional research data will enhance the chances of improving teacher education programs.

VII. DEFINITION OF TERMS

For the purpose of this study, the following list of terms was incorporated to have the meaning indicated:

1. Competency-based education. An approach to preparing teachers that places great stress on the demonstration of explicit performance criteria (competencies) as evidence of what the prospective teacher knows and is able to do (Andrews, 1972, p. 2).
2. Professional competency. The capabilities of an educator to perform an educational task. This would include the knowledge, skills and abilities that have been acquired through professional study and/or experience, and personal characteristics that are prerequisites to competence development.
3. Beginning teachers. Teachers who have just received the

bachelor's degree and immediately thereafter entered teaching with the exception of California where an internship or the fifth year is often required before a teacher begins his career (Bail and Cardozier, 1967, p. 265).

4. Experienced teachers. Teachers who have taught one or more years and are currently employed as teachers of agriculture.
5. Inservice education. Credit and non-credit university courses or workshops for agriculture teachers after receiving the baccalaureate degree.
6. Jury of Specialists. A group of educational personnel qualified as being knowledgeable about the competencies required to be a secondary teacher of agriculture.
7. Model Curricula. A developmental curriculum of teacher education competencies developed for all vocational teachers by the Center for Vocational-Technical Education at The Ohio State University.

VIII. ORGANIZATION OF THE STUDY

This study is presented in five chapters with accompanying references and appendices. Chapter I serves to set the framework of the investigation by introducing the problem, stating the problem, the assumptions, the limitations, the importance of the study and the definition of terms relative to this study. Chapter II presents the review of literature that was found to be relevant to this particular study. Chapter III outlines the method and procedure that were followed

to answer the questions related to the problem of this study. Chapter IV consists of a presentation of the statistical analysis and interpretation of quantitative data that were collected in this investigation. Chapter V contains the summary of the study, conclusions derived from the findings in Chapter IV, and recommendations for further study or use of the findings presented.

CHAPTER II

REVIEW OF LITERATURE

The review of literature for a study of selected professional competencies for secondary teachers of agriculture draws from literature on teacher education in general, the preparation of all vocational teachers and that specifically related to the preparation of agriculture teachers. This broad approach was necessary because performance-based teacher education (PBTE) is an exploratory movement and not an established approach (Woodruff, 1973, p. 238).

The review covered an approximate period of twenty years with the first article determined to be applicable to this study being dated 1955 and ending with an update search of the literature in the Fall Quarter, 1974. The majority of the literature incorporated in this study is drawn from the last one-half of the period because this was the period which focused on the subject involved. The two purposes of the review were to provide background information to aid in the design and content of the study, and to provide a frame of reference for discussing the findings.

The results of the review were organized to follow the same outline as the analysis of the problem section in Chapter I. The first section contains a review of the literature relating to all vocational teachers. The second section contains literature related to agricultural teachers in a broader scope than the third section dealing with

competencies. The third section contains the research specifically related to competencies for agriculture teachers. The final section contains a summary of the review of literature.

I. LITERATURE RELATED TO ALL VOCATIONAL TEACHERS

One of the most involved researchers in vocational education in performance-based teacher education has been Calvin J. Cotrell who was mentioned earlier concerning the work at Ohio State (Cotrell, 1971, p. 18). He described his research in performance-based teacher education as follows:

> What is meant by performance-based instruction? With the advent of public school curriculum development, which required the writing of behavioral objectives or performance goals, teacher educators have been helping teachers write behavioral objectives. However, very few teacher education courses are designed with behavioral objectives. Teacher educators have been guilty of preaching what they are not themselves practicing but then this is not a new phenomenon for teachers at all levels. As long as all instruction is not dehumanized in the process, behavioral objectives are helping educators do a better job of communicating with learners. The objectives of all instruction organized on this basis should be better, if for no other reason than improved communication; both students and teachers should know better what is expected of them in a course.
>
> Determining the pedagogical competencies required of vocational and technical teachers was one of the purposes of the "Model Curricula for Vocational and Technical Teacher Education" project. Presently, 390 performance elements (competencies) have been identified. A performance element is a statement of an observable behavior which describes what a person will be doing as he functions in the role of a teacher.
>
> Objectives of this type require three major components according to most authorities: (1) a statement identifying the desired activity, (2) a statement of the conditions under which the activity is to be experienced, and (3) a statement of the criteria which are to be used in measuring achievement of the objective.

Some work at Michigan State University (1972, p. 9) in relation to the development of professional competencies offers additional insight into the competency-based approach to teacher training. It was described as follows:

> The first course required of all prospective teachers at Michigan State University is focused upon the tasks demanded of a teacher in optimizing student learning. Part of the instruction is offered through student learning carrels with the rest of the course focusing upon the prospective teacher as a person and upon his self-learning, self-development, and personal growth.

The work by Lucy Crawford at Virginia Polytechnic Institute concerning professional competencies deemed necessary for the distributive education teacher was reported by Strong (1972, p. 146). He summarized her work as follows:

> Another unique feature of the report is the "value" attached to every performance objective. One sees various classification schemes for different kinds of behavior students are expected to display as a result of the learning process. The Crawford project ranked objectives in order of importance. Too often a list of objectives is presented so that each one seems of equal worth. Priorities must be established so that more important objectives are given more stress, and the teacher can recognize observable differences in behavior in the most significant areas. This can be of great assistance to the teacher so that he (she) may perceive not only the scope and focus for the program, but may systematically provide for differences in depth of learning for individuals.

Some of the problems related to competency and its continued development were summarized by Schaefer (1971, p. 136):

> A missing link in the process of preparing education professionals is the lack of in-house opportunities for self-regeneration. Certification, life-long credentials, and tenure have tended to isolate the profession from normal pressures for continued professional improvement. Those who have sought means for increasing their instructional competence within their own school systems have been offered sporadic short-term workshops.

> The fact that half the knowledge teachers will need to know ten years from now has not yet been discovered is a powerful force for creation of an ongoing, comprehensive organizational mechanism for inservice education. The principle of continuous renewal must take its place as a foremost precept of the teaching profession, and appropriate structures should be credited to insure its permanence.

A study of the analysis of trade and industrial certification requirements in the 50 states was reported by Ramp and Reeder (1973, pp. 33-34). The competencies were not listed specifically as professional and technical but were categorized as those derived from teacher education and those through direct work experience. Nine areas of competency which were deemed to be needed by trade and industrial teachers. They were:

1. Trade Analysis
2. Course Analysis and Construction
3. Methods of Teaching Industrial Subjects
4. Preparation and Use of Instructional Materials
5. Principles and Philosophy of Vocational Education
6. Tests and Measurements
7. Preservice Teacher Training
8. Journeyman Work Experience
9. Practice Teaching

The work of the National Advisory Committee on Vocational Education concerning teacher education evaluation and analysis was reported by Evans (1971, p. 216) as follows:

> The report of the Essex Advisory Council on Vocational Education in 1968 emphasized the need for preservice and inservice development of vocational and technical teachers. It pointed to a projected increase of 150 percent in the number of teachers in

> the decade ending in 1968, which would require marked expansion of preservice and retread programs. It pointed to the need for re-education of teachers to enable them to adapt to changes in occupations, which would require an equally great expansion of in-service teacher education programs.

II. LITERATURE RELATED TO AGRICULTURAL EDUCATION

Woodin has served as chairman of the Professional Personnel Recruitment Committee of the Agricultural Education Division of the American Vocational Association for several years. He has kept up with the supply and demand of agriculture teachers and the various kinds of programs the teachers eventually are being placed in to work (Woodin, 1971, p. 136). His analysis of the situation related to agriculture teachers in the public schools was as follows:

> The respect enjoyed by Agricultural Education in the public schools has been a direct result of developing an adequate supply of high quality teachers. Although in times of shortage there is a temptation to compromise on quality, this has not been the case in Agricultural Education.

An interpretation of the 1963 Vocational Education Act was presented by Lamar (1965, p. 13). He suggested:

> A sound program of teacher education is basis to the development of an effective program of vocational agriculture. The responsibility of teacher education must be to serve all professional personnel in agricultural education. The concern must be to improve the professional preparation programs, both pre-employment and in-service and to prepare an adequate supply of competent teachers and other professional workers for normal replacements and needed expansion. There must be an increased concern about the competence and performance of all professional personnel in vocational agriculture.

Professional education was described by Wiegers (1967, p. 160) as:

> that part of teacher education which is designed primarily to orient college students to the purposes, principles, policies, and procedures in education, as well as to develop abilities essential in teaching vocational agriculture.
>
> A major part of the professional education is provided through formal college courses offered by education departments and are taught by professional teacher educators. These courses usually can be identified in an institution's list of offerings as "education," "vocational education," or "agricultural education" courses.

The references related to agricultural education summarize the opinion of some of the teacher educators in agriculture with respect to teachers of agriculture and their professional development.

A study at Ohio State concerning the perceptions of first year agriculture teachers was reported by Guiler (1970, p. 312). This was a five year study to determine the self-perceived abilities of beginning teachers in ten areas of competency. The ten areas of competency involved 68 professional abilities ranging from using an advisory council effectively to maintaining a clean shop. At the beginning of the first year of teaching it was found that new teachers believed they were fairly competent in advising FFA activities, planning physical facilities, pursuing professional improvement and conducting public information activities. Further analysis of the data seems to indicate that teachers may have reported a higher perception of their abilities in planning physical facilities, professional improvement and public relations than they actually possessed.

A study of "The Role of the Teacher of Vocational Agriculture as Perceived by Selected Ohio Teachers and Their Administrators" was completed by McComas (1964, p. 145). This study included a sample of 30 selected teachers and 30 of their administrators in 11 Central Ohio

counties. The group was rated by eight Ohio state supervisors as the 15 most effective and 15 least effective teachers in the area. Seventy role defining items were included in the interview schedule. The results indicated the teachers which were rated most effective and their administrators had a greater agreement on role expectations and role performance than the teachers rated as least effective agreed with their administrators. Teacher effectiveness was positively related to job satisfaction and job satisfaction was related to the consensus of role defining among the teachers.

A study in five Southern states included responses from 163 respondents. The sample included teachers, teacher educators, superintendents, supervisors of instruction and state staff members. The study focused on the emerging role of the teacher of vocational agriculture. The questionnaire contained 12 role items broken into 78 descriptive activities. The mean responses of the five groups were calculated to obtain a rating for each item from each professional group. As a test of significance difference among these groups, the analysis of various procedures was used. None of the items were rated extremely important by an average of all responses. Nine items - high school instruction, FFA and Leadership, work experience, orientation, placement and follow-up, summer programs, education and evaluation were rated very important. Post high school instruction and recruitment and selection were rated important. Extra class activities were rated as slightly important and no items were considered inappropriate (Stewart, 1969, p. 1347A).

A study related to the beginning teacher of agriculture in which he contrasted the role concepts of the beginning teacher of agriculture with successful experienced teachers was reported by Todd (1967, pp. 160-161). His conclusions and implications were:

> The following conclusions and implications evolved from the study relative to the teacher of vocational agriculture and the pre-service and in-service training programs of the Department of Agricultural Education.
>
> 1. Role perceptions of the beginning teachers studied were basically internalized for the teacher's position, that is, they entered the local vocational agriculture department with a reasonable degree of understanding of their role.
> 2. Beginning teachers held role perceptions for the teacher's position very similar to the successful experienced teachers which further substantiates a degree of internalization for the teacher's role.

A study entitled "The Relationship of Characteristics of Prospective Student Teachers and Student Teaching Effectiveness in Agricultural Education" was conducted by Fuller (1964, p. 2799). It was the opinion of teacher trainers that twenty-three groups of observable behaviors were critical in determination of student teaching effectiveness. Seventeen of these factors were associated with in-school situations while six were related to young and adult farmer instruction. When he compared effective and ineffective teachers he found:

> that certain student characteristics identified by the Student Questionnaire were more important than others in the prediction of student teaching effectiveness and student behaviors. The characteristics most frequently associated with behavior patterns of highly effective student teachers were interest in society and self, attitude toward people, attitude toward pupils, and three unnamed personality factors.
>
> For below average student teachers the characteristics most frequently associated with behavior patterns were age, farm experience, participation in organizations, interest in self and society, attitude toward pupils, and three unnamed personality factors.

A study evaluating the preservice program of teacher education in agriculture at South Dakota State College was reported by Gadda (1964, pp. 2799-2800). He developed a Lickert-type survey containing 160 beginning teacher competencies. He surveyed 66 beginning teachers from 1956 to 1961, their school administrators, and the supervising teachers who directed their student teaching. He also surveyed 631 students of the beginning teachers.

The beginning teachers of vocational agriculture, the administrators and supervising teachers revealed considerable difference in levels of competency development. The most adequately developed competencies had mean indexes 46 percent higher than those least adequately developed. The high categories were associated with establishing and maintaining relationships and advising the FFA. The least adequately developed competencies were those pertaining to performing guidance services, teaching young and adult farmers, conducting a public relations program, and teaching in-school classes and supervising farming programs. The students responses confirmed several of the same findings revealed by the teachers, administrators and supervising teachers.

In a study of the preservice agricultural education curriculum at West Virginia University, the teachers of agriculture, their principals, and supervisors were surveyed (Kelly, 1968, p. 780A). A summary of his findings were listed numerically:

1. The teachers and principals responses did indicate a strong association, except for five competency items in the areas of general and professional education.
2. The teachers were significantly inadequate in one general education competency, as indicated by the principals.

3. The supervisors indicated the teachers were inadequate in thirteen professional education competencies, while teachers felt inadequate in only two.
4. The principals and supervisors indicated the teachers were significantly adequate in the broad technical agriculture categories.
5. The teachers indicated they were adequate or more than adequate in all but three of the competencies in agricultural economics and farm management.
6. The teachers indicated they were adequate or more than adequate in all but one of the agronomic competencies listed.
7. The teachers indicated adequacy for all competencies of animal science.
8. The teachers thought themselves to possess adequate or more than adequate competency in all but three items in agricultural mechanics.
9. The teachers indicated that sixteen of the fifty-five courses making up the undergraduate curriculum were of no significant help to them during their first year of teaching.

III. RESEARCH DIRECTLY RELATED TO PROFESSIONAL COMPETENCIES FOR AGRICULTURAL TEACHERS

Studies related specifically to the professional competencies for secondary teachers of agriculture do not appear in the literature in large numbers. Only three studies related directly to the preparation of secondary teachers of agriculture were found in the literature. However, a few studies related to post secondary agriculture teachers appeared in the literature and were reviewed, but they did not provide material applicable to this study. The three studies related to secondary teachers of agriculture are reviewed in the order they were completed.

A study which had as number one purpose of determining the strengths and weaknesses of undergraduate professional courses in agricultural education at The University of Tennessee at Knoxville

(Beamer, 1956, pp. 913-914). Data for the study were obtained through interviewing school officials, high school teachers, high school principals and laymen in six selected public school systems in Tennessee. These interviews served two purposes: (1) To get information to assist in defining the job of the teacher of vocational agriculture, and (2) to gather evidence reflecting strengths and weaknesses in the professional training of teachers of vocational agriculture.

Twelve areas of ability were identified and rated as essential to high school teachers:

1. Ability to establish and maintain relationships.
2. Ability to determine community agriculture needs.
3. Ability to prepare an agricultural education program.
4. Ability to establish and maintain an advisory council.
5. Ability to provide and maintain departmental facilities.
6. Ability to teach high school classes in vocational agriculture.
7. Ability to direct programs of supervised farming.
8. Ability to direct programs of farm mechanics.
9. Ability to advise a Future Farmers of America Chapter.
10. Ability to provide guidance to students.
11. Ability to organize and conduct young and adult farmer classes.
12. Ability to continue progressional growth.

A study conducted identifying "The Professional and Technical Needs of Teachers of Vocational Agriculture in West Virginia" was completed by McGhee (1967, p. 2123A). The methods of investigation and summary from Dissertation Abstracts were:

A questionnaire that contained sections dealing with professional and technical skills thought to be important to the success of the vocational agriculture program in West Virginia was used. The respondents were teachers of vocational agriculture, state staff in teacher education and supervision, and principals in schools having vocational agriculture departments.

A 90.0 percent return was received from the high school principals, 97.1 percent from the teachers of vocational agriculture, and 100 percent response from the state staff.

Summary: (1) Both off-campus and on-campus in-service education should be provided to meet the needs of the teachers, including on-the-job supervision, conferences, seminars, short courses, workshops and regular program courses and workshops that are of a calibre to meet the Graduate School standards, (2) Professional areas of performance considered in the study that were rated above average in importance to the program of vocational agriculture are as follows: instructional, activities, supervised work experience, instructional materials, organization and planning, Future Farmers of America, off-farm agricultural occupations relationship to school, young and adult farmer programs, and public relations, and (3) The greatest needs for instructional assistance are in performance areas of off-farm agricultural occupations, using advisory committees, young and adult farmer work, making proper use of bulletin boards, occupational experience programs, public relations, rural sociology, recreation, civil defense, forestry, tobacco production, poultry husbandry, landscape architecture, economic development, horticulture, plant pathology, and agricultural mechanics.

A study conducted at the University of Nebraska which attempted to identify and differentiate selected professional competencies for agricultural educators was reported by Stoller (1971, p. iii). He concentrated on 74 professional competencies of agriculture instructors and extension agents in Kansas and Nebraska. He summarized his work as follows:

> It was evident that many professional competencies for agricultural educators, namely instructors of secondary and post-secondary vocational agriculture and county extension agents were similar; however, some differences were also identified. Therefore, differences in emphasis may be necessary in pre-service and in-service programs to meet the needs for each specific group. The similarities noted in the central core appear to be items that can be included in preparation programs for all groups and the differences noted may be a guide to provide specialized preparation for each individual group.

A recent study conducted at Michigan State University identified competencies needed prior to student teaching. The competencies were identified by four supervising teachers. They compiled a list of the professional competencies. This check-list was mailed to 27 teachers of agriculture who had served as supervising teachers for student teachers from Michigan State University, and twenty returned the questionaires. They were asked to rank each competency from 1 to 4 as follows:

1. Great need for the competency.
2. Considerable need for the competency.
3. Competency desirable but not necessary.
4. Competency unnecessary.

Forty of the competencies received a mean rating between 1.00 and 2.00 indicating the need for the competencies (Garner, 1974, pp. 2-5).

IV. SUMMARY OF REVIEW OF LITERATURE

The growth of the competency-based approach to the preparation of teachers has grown out of an effort by teacher educators to respond to the accountability thrust for more definable standards in teacher education. This effort was described by Vogler (1972, p. 66) as follows:

> The significance of the movement is indicated in a survey conducted by the American Association of Colleges for Teacher Education, AACTE, in 1970. The survey indicated that about one-third of the State Departments of Education in the United States were involved in developing performance criteria for teachers. An approximate one-third more were planning to move in this direction. The remaining departments reported no interest. The qualitative and quantitative aspects of involvement varies considerably. The range spans from no involvement to a proposed implementation of a competency-based progran in 1972 in the State of Washington.

The review of literature covers a period of transition where the professional preparation of teachers has moved from a general approach to a more specific program of teacher preparation. Rather than prescribe the same curriculum for all enrollees, an effort is being made to evaluate the student's competence or expertise before the student begins the program. The prospective teacher still must present a degree to enter the profession, but in many cases they will be expected to present evidence of professional competence gained in the preservice program.

The competency-based teacher education offers an opportunity for teacher educators to design, test and redesign an exploratory model of teacher preparation (Haberman and Roy, 1972, p. 55). They presented the rationale for a more orderly approach to teacher preparation as:

> There are no clear emphases in teacher education programs; we try to give all students a little of everything. Such vagueness misuses faculty, upsets students and ultimately prepares teachers who can do very little very well.

The competency-based approach will assist teacher trainees to capitalize on their strengths and work toward alleviating their weaknesses. This offers a more realistic approach to teacher preparation than prescribing all teachers pass a set of prescribed courses without regard to individual competence.

The review of literature presents a broad spectrum of programs in teacher preparation which deals with some of the earlier work in competency-based teacher education for all vocational teachers which was completed at The Ohio State University by Cotrell and his associates.

It also presents some specific studies directly related to preparation of agriculture teachers such as the Michigan State University Study in 1974. The overall literature review served as basis for examining the field of teacher education in the area of professional competencies and establishing parameters for the study.

CHAPTER III

METHOD AND PROCEDURE

The method and procedure followed in this study of selected professional competencies for secondary teachers of agriculture involved two major activities: (1) identification of the problem, and (2) the materials and procedures used in arriving at a solution to the problem identified.

I. PROBLEM IDENTIFICATION

The development of the Model Curricula applicable to all secondary vocational teachers left teacher educators in specific service areas in a dilemma as to whether to accept the concept of a single program for preparation of all vocational teachers or to pursue further research related to specific service areas of vocational education. This researcher became interested in the problem after attending an American Association of Teacher Educators in an Agriculture meeting at the American Vocational Association Convention in Chicago in December, 1972, where a panel discussion was presented by the committee of professional goals on the different approaches at different universities in relation to development of professional competencies. This committee recommended that a study of professional competencies be made which were related specifically to teachers of agriculture. The purpose of this study would be to verify the accuracy of those competencies which

were found to be more applicable or significantly different for secondary teachers of agriculture. In an effort to develop a study consistent with those recommendations, the following steps were taken:

1. A review of research available which attempted to identify professional competencies for secondary vocational teachers was conducted. The primary sources of information were the Dissertation Abstracts and the staff studies at The Ohio State University and The Illinois Bureau of Educational Research Coordinating Unit and the periodicals in The University of Tennessee Library.
2. During the proposal development, it was decided to work only with those professional competencies related to instruction, coordination and management.
3. In order to obtain an assistance from the group which motivated this researcher to pursue a study of professional competencies, the preliminary proposal was mailed to the members of the American Association of Teacher Educators in Agriculture committee on professional goals to review and critique. Their suggestions were included in the procedures for solving the problem.

II. PROBLEM SOLUTION

Development of Questionnaire

The initial list of competencies included in developing the questionnaire was taken verbatum from three major sources: (1) The

Model Curricula Study at The Ohio State University, (2) the study of professional competencies for vocational teachers conducted by the Illinois Bureau of Educational Research, and (3) dissertations which dealt with competencies for secondary teachers of agriculture. These competencies were listed numerically as they were taken from the various studies without regard to duplication with all those competencies which appeared to be unique for either beginning or secondary teachers of agriculture in the Ohio study being listed first. The competencies identified in the Illinois study which were significantly different for teachers of agriculture were listed and followed with a listing of competencies found in dissertations which studied only agriculture teachers. The three most used were two obtained from University Microfilms by Gadda and McGhee and a dissertation by Stoller which was borrowed from The University of Nebraska.

After a listing of as many professional competencies as possible in the area of instruction, cooperation and management was completed, the competencies were checked by the researcher to eliminate any duplicate competencies. The response categories were developed by the researcher and his major professor to obtain responses related to the problem. The first draft of the questionnaire was then submitted to a jury of specialists (see Appendix A) who were asked to review the questionnaire for clarity and to further eliminate duplication. Suggestions for improvement were sought from this group. The jury of specialists was composed of fifteen people who had either taught or were presently teaching in secondary agriculture programs. A number of

suggestions for rewording was made by the jury of specialists. As indicated in the problem identification section, the questionnaire was submitted to the AATEA committee on professional goals which gave suggestions for improvement of the study and the questionnaire (see Appendix D). Suggestions from both groups were utilized in the final development of the questionnaire.

Field Testing Questionnaire

A cover letter for the questionnaire was developed which explained the nature of the study and gave specific instruction with regard to each response column before field testing the questionnaire. The jury of specialists had suggested the questionnaire be field tested with a group of agriculture teachers to get their reactions and suggestions. A graduate class in agricultural education at The University of Tennessee, Knoxville (see Appendix B) was used to field test the questionnaire. Everyone enrolled in the class was an agriculture teacher attending summer school. The teachers used in the field test were given the questionnaire and asked to complete it by following the instructions just as if they had received the questionnaire in the mail. The instructions (see Appendix C) solicited their opinion as to the clarity of all parts of the questionnaire. Three specific suggestions were to reduce the size of the instrument, rearrange instructional competencies into some kind of sequence and have the final copy printed by a professional printer. As a result of the suggestions from the field test, the instructional competencies were rearranged into three groups

as they appear in the final questionnaire (see Appendix E), and the questionnaire was printed professionally which reduced the total number of pages of the instrument from seven to six.

Selection of Population

The Supply and Demand For Teachers of Agriculture in 1972 (Woodin, 1973, pp. 12-16) was used to select the two states from each of the four regions which had the largest number of beginning teachers rather than randomly selecting two states from each region. One exception was made in the Southern region where the beginning teachers in Texas were more than twice the number of beginning teachers of all the other states. In this case, the states with the second and third largest number of beginning teachers were chosen.

After selecting Florida and Virginia from the Southern Region, Illinois and Ohio from the Central Region, California and Colorado from the Pacific Region and New York and Pennsylvania from the North Atlantic Region, the state coordinators for agricultural education were contacted for permission to pursue the study with the secondary agriculture teachers in their state. Each of the coordinators gave permission and provided a list of his teachers with the beginning teachers in the 1972-73 school year marked. The beginning and experienced teachers in each of the regions were numbered consecutively in order to obtain both regional and national data. The National Education Association Small-Sample Technique (NEA, 1969, pp. 99-104) was used to calculate a sample of sufficient size to give an accuracy of $\pm$ 5 percentage points with a

level of confidence of 90 percent. An equal number of experienced teachers was drawn from each of the regions to match the beginning teacher sample. All samples of beginning and experienced teachers were randomly selected using the random table from Basic Statistical Methods (Downie and Heath, 1970, pp. 328-329).

Collection of Data

Data were collected from a questionnaire mailed to those secondary teachers of agriculture randomly selected from the eight states participating in the study. The questionnaire included a cover-letter individually adapted to each state (see Appendix F) for a sample. The questionnaire included a cover-sheet with a blank to number the questionnaires consecutively by states in order to mail follow-up questionnaires. A follow-up letter was mailed all participants (see Appendix G) two weeks after the questionnaire was mailed which thanked those who had returned the questionnaire and reminded those not responding of the importance of returning the questionnaire. A chronological listing of steps involved in the study includes all the events of the study (see Appendix H).

Treatment of Data

In March, 1974, after no questionnaires had been received in one month, the returned questionnaires were checked against the original mailing lists to ascertain correct grouping. The questionnaires were then renumbered consecutively from one to the end of the group for recording purposes. A check was made with The University of Tennessee

Computing Center consultant before data were recorded to assure correct recording. Data from each questionnaire were tabulated on The University of Tennessee Computing Center Data Sheets. The questionnaire contained 109 competences with a maximum of four responses per competence or a possible of 436 responses per questionnaire.

A SAS computer program was utilized to group the data in the program printout to ascertain the data from each questionnaire were grouped properly in the correct order. The computer program chosen for the descriptive and associational analysis of the data was the Statistical Package from the Social Sciences (SPSS) (Nie, 1970). From the SPSS program, the subprogram Codebook and Crosstabs were used.

The subprogram computes and presents tables containing: (1) simple frequences; (2) relative frequences; (3) adjusted relative frequencies with missing values excluded; and (4) cumulative adjusted frequences for categorical data. Chi-square statistics were utilized.

The data were processed both as eight groups and two groups; the eight groups represented the beginning and were processed on a national basis. The data were processed on a national basis in order to more accurately compare the perceptions of beginning and experienced teachers of agriculture by cross tabulating. This insured larger frequencies than the minimum required for cross tabulation.

The presentation of the statistical analysis of the quantitative and qualitative data collected to meet the four objectives of this study are contained in Chapter IV.

CHAPTER IV

PRESENTATION, ANALYSIS AND INTERPRETATION OF THE DATA

The presentation, analysis and interpretation of the data collected in this investigation of professional competencies is divided into three sections as follows: (1) a presentation of means and rank order of the national data for each competency; (2) a study of all the competencies perceived to be essential by secondary teachers of agriculture or receiving a 70.0 percent or greater essential rating in section one; and (3) a summary of the regional data.

The data presented were derived from responses from 244 secondary agriculture teachers from eight states. Of the 244 responding, 118 were beginning agriculture teachers and 116 were experienced agriculture teachers. The population, sample and returns by region and nationally appear in Table 1. Tables which show less than 244 responses was due to one of two things: (1) all competencies were not responded to, or (2) when a competence was rated does not apply in column one, the other columns required no response.

I. THE MEAN AND RANK ORDER OF EACH COMPETENCE

The 109 competencies used in this study were divided into three groups with 71 competencies being instructional, 19 coordination competencies and 19 management competencies. The instructional competencies were also divided into planning, execution and evaluation sections. Of

TABLE 1

QUESTIONNAIRES RETURNED BY REGIONS

Region	Population	Sample	Returned	Percent
Central	116B*	82	35	42.68
(Ill./Ohio)	856E**	82	41	50.00
Pacific	86B	65	29	44.61
(Calif./Col.)	529E	65	29	44.61
Southern	117B	82	34	41.46
(Fla./Va.)	653E	82	34	41.46
North Atlantic	58B	48	21	43.75
(N.Y./Pa.)	565E	48	21	43.75
Totals	2980	554	244	44.04

*B = Beginning Teachers

**E = Experienced Teachers

the 71 instructional competencies submitted to secondary agriculture teachers, they rated 42 of them essential with 70.0 percent or higher as indicated in Table 2. The five highest instructional competencies were rated essential by 90.0 percent or better. The two highest rated competencies deal with determining instructional units and developing instructional content for a lesson. Two of the other three relate to determining student needs and evaluation. The other competence of the five high competencies deals with the evaluation of the teachers' own techniques and methods.

There were 20 competencies in the instructional group which rated in the eighty percent group and 17 which were ranked in the seventy percent group. A further breakdown of Table 2 shows 16 of the instructional competencies of the 24 planning type received a 70.0 percent or greater essential rating, 15 of the instructional competencies of the execution type were rated essential and 11 of the 18 evaluation type instructional competencies were rated essential.

Six instructional competencies which received below the 70.0 percent essential rating were rated in the 60 percent group and 11 were rates in the 50 percent essential rating group. Four instructional competencies were given a 40 percent rating with the remainder ranging down to 9.6 percent which was present a lesson on a closed circuit TV.

The teachers only rated one of the 19 coordination competencies essential with a rating above 70 percent or 76.8 percent as indicated in Table 3. Only three coordination competencies were given a rating in the 60 percent grouping with nine of the coordination competencies given

TABLE 2

THE PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO SELECTED INSTRUCTIONAL COMPETENCIES

Rank	Number on Questionnaire	Competency	Essential In Percent
1	8	Determine instructional units	92.9
2	7	Select and/or develop instructional content for a lesson	92.6
3	15	Determine student needs and goals	92.5
4	71	Evaluate one's own techniques and methods of teaching	91.2
5	57	Evaluate student's progress in class, home and laboratory assignments	90.4
6	13	Construct a lesson plan	87.9
7	6	Formulate objectives for lessons, units or courses	87.5
8	70	Evaluate outcomes of instruction	87.4
9	49	Demonstrate a manipulative skill	87.1
10	31	Introduce a lesson	86.1
11	50	Present a concept or principle through a demonstration	85.4
12	17	Determine in-school learning experiences (classroom or laboratory)	85.3
13	3	Formulate long-term objectives for the program	85.1
14	18	Develop course outlines (content)	84.6
14	26	React to student actions and behaviors (cues)	84.6

TABLE 2 (Cont'd)

Rank	Number on Questionnaire	Competency	Essential In Percent
16	5	Analyze skills (operations, procedures) relevant to course planning	84.5
17	42	Direct student laboratory experiences	84.2
18	27	Develop standards for student attainment	83.8
19	20	Select teaching techniques, strategies and methods (includes instructional media and aids)	83.5
20	69	Evaluate classroom facilities and equipment	83.3
21	9	Develop instructional material (information sheets, transparencies, bulletin board materials)	82.2
22	14	Develop a system for recording and filing subject matter materials	81.7
23	68	Analyze the results of a written test	81.1
24	30	Guide students in keeping records	80.8
25	67	Administer tests	80.3
26	48	Present a lesson with the aid of a chalkboard	79.7
27	45	Use problem-solving techniques	79.4
28	54	Guide students in analyzing their records	78.8
28	55	Evaluate text and reference materials to meet course objectives	78.8
30	60	Evaluate accomplishments of the FFA Chapter	78.2

TABLE 2 (Cont'd)

Rank	Number on Questionnaire	Competency	Essential In Percent
31	41	Conduct a field trip	75.5
32	21	Organize the sequence of learning tasks	75.2
33	56	Establish evaluative criteria for lessons, units or courses	75.1
34	46	Use small-group instruction	74.3
35	29	Guide students in setting standards and evaluating progress in their programs	74.2
36	44	Give an illustrated talk	72.9
37	59	Evaluate projects in agricultural mechanics	72.7
38	47	Utilize supervised study	71.0
38	16	Develop written goals and objectives to be attained in the instruction of each class	71.0
40	52	Obtain closure for a lesson (summarize)	70.8
41	4	Involve administrators and teachers in program planning	70.5
42	23	Develop strategies to assist students in selecting occupational experience programs	69.9
43	43	Give a lecture	67.4
44	19	Develop course calendars (dates)	67.2
45	25	Conduct a visit to student's home for instructional purposes	64.0
46	53	Involve others in evaluating the program	62.6

TABLE 2 (Cont'd)

Rank	Number on Questionnaire	Competency	Essential In Percent
47	22	Determine the need for resource persons	62.2
48	24	Integrate all aspects of the instructional program	61.3
50	66	Formulate matching test items	59.8
51	10	Reproduce instructional materials with a mimeograph machine	59.2
52	61	Devise laboratory performance tests	57.7
52	65	Formulate true-false questions	57.7
54	63	Formulate completion test items	57.5
55	11	Reproduce instructional material with spirit duplicator	57.3
56	51	Give an assignment for outside work	56.9
57	28	Present study techniques	56.0
58	33	Utilize 16 mm projector	52.5
58	1	Organize an advisory committee	52.5
60	37	Present a lesson with overhead projector and/or opaque projector	51.0
61	12	Reproduce instructional material (hard copy and transparency)	49.2
62	2	Consult advisory committee for program planning	48.5
63	58	Utilize progress charts in agricultural mechanics	45.4
63	62	Formulate essay test items	45.4

TABLE 2 (Cont'd)

Rank	Number on Questionnaire	Competency	Essential In Percent
65	38	Present information with the assistance of a resource person	37.3
66	32	Utilize 8 mm single concept film	26.1
67	39	Direct role playing	24.1
68	34	Present a lesson with audio tape, disc recording or radio receiver as resources	20.0
69	40	Present a lesson using a prepared skit (standardized, teacher or pupil written)	15.5
70	35	Direct programmed instruction (teaching machine or text)	14.3
71	36	Present a lesson with closed circuit TV	9.6

TABLE 3

THE PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO SELECTED COORDINATION COMPETENCIES

Rank	Number on Questionnaire	Competency	Coordination
1	11	Develop procedure to insure student-learner's safety and protection	76.8
2	12	Assist student-learners in job orientation	64.8
3	18	Discuss on-the-job training progress reports with students	62.7
4	17	Involve cooperating employer in the evaluation of student-learner's performance	60.2
5	7	Evaluate the facilities of prospective training stations	58.8
6	16	Interpret evaluation forms for on-the-job training	57.8
7	14	Develop evaluation forms for on-the-job training	56.4
8	8	Select training stations	56.2
9	10	Develop a systematic training plan with a cooperating employer	55.5
9	15	Administer evaluation forms for on-the-job training	55.5
11	6	Develop a public relations plan for cooperative program	53.8
11	19	Obtain follow-up information from graduates and former student-learners	53.8

TABLE 3 (Cont'd)

Rank	Number on Questionnaire	Competency	Coordination
13	4	Assist in developing policy on absenteeism, work schedule (hours), job transfer and wages	50.2
14	5	Develop plan to obtain assistance of local directors and state supervisory staff	48.9
15	13	Submit training plans to proper educational and labor representatives	47.2
16	2	Maintain a current file of jobs and employers	46.0
17	9	Conduct training station development program	42.1
18	3	Secure advisory committee recommendations for training stations	41.8
19	1	Conduct a community survey	36.9

a rating in the 50 percent group. The remaining coordination competencies received an essential rating of 36 to 48 percent.

The teachers rated 12 of the 19 management competencies essential above 70 percent as indicated in Table 4. Two of these competencies received an essential rating above 90 percent and three were rated in the 80 percent group. Seven were rated in the 70 percent group and the remaining were rated from 42.4 to 53.6 percent.

II. A STUDY OF COMPETENCIES PERCEIVED ESSENTIAL

The study included 109 competencies for beginning and experienced secondary teachers of agriculture to mark their perceptions as to the essentiality, frequency of use, time of development and the type of course where the competency should be developed. Of the 109 competencies, the teachers rated 55 of the competencies essential with 70 percent or greater rating. These competencies are presented and discussed in descending order and in the same sequence they were presented in Table 2, Table 3, and Table 4. The discussion includes the three basic questions which follow the rating of a competency as essential or not and the Chi-square computation in which beginning and experienced teachers were compared and tested at the 0.05 and the 0.01 level of significance. It should be noted the Chi-square computations were calculated on the frequency counts and reported from the computer printout as percent to simplify the presentation of the data.

The instructional competencies appear first in the questionnaire, and the highest rated competence in this study was number 8, "determine

TABLE 4

THE PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO SELECTED MANAGEMENT COMPETENCIES

Rank	Number on Questionnaire	Competency	Management
1	5	Implement safety procedures	95.0
2	12	Maintain equipment and tools	93.8
3	15	Maximize use of student's time and equipment	88.8
4	16	Develop a system for cleaning and maintaining the laboratory	88.7
5	13	Arrange mechanical details of the classroom and laboratory	80.3
6	4	Establish detailed rules and regulations for laboratory participation	78.2
7	11	Implement system for providing consumable supplies	77.0
8	17	Participate in conferences to coordinate activities in local department	76.6
9	10	Prepare a program budget	75.9
10	14	Schedule student's work station and storage space in laboratory or shop	74.2
11	18	Develop outline to guide students in writing objectives for FFA program of work	71.5
12	19	Prepare program evaluation reports	70.7
13	9	Develop ability to file claim forms to receive approval from state agencies	53.6

TABLE 4 (Cont'd)

Rank	Number on Questionnaire	Competency	Management
14	7	Make financial arrangements for special banquets	49.4
15	8	Make financial arrangements for adult programs	49.0
16	1	Consult advisory committees in planning for facilities and equipment needs	48.8
17	2	Involve the advisory committee in evaluation of physical facilities, equipment and supplies	47.5
18	3	Develop or assist in developing policy for use of facilities by other school personnel	46.0
19	6	Group students according to individual differences	42.4

instructional units." This competence appears in Table 5 (see Appendix J) and receive an overall essential rating of 92.9 percent. All remaining tables appear in Appendix J. The beginning and experienced teachers disagreed on the frequency of use of the 0.05 level of significance. They disagreed on where its development should be emphasized at the 0.01 level of significance and agreed this competence should be developed in a specialized course.

The second instructional competence selected was number 7, "select and/or develop instructional content for a lesson." This competence appears in Table 6 and received an essential rating of 92.6 percent. There was no signficant disagreement between beginning and experienced teachers as to use or development of this competence.

The third instructional competence selected by teachers was competence number 15, "determine student needs and goals." It received a composite rating of 92.5 percent. Table 7 indicates no consensus as to the frequency of use, whether emphasis should be preservice or inservice or the type of course it should be developed. There was disagreement at the 0.05 level of significance as to whether this course should be developed in preservice or inservice with the experienced teachers favoring preservice.

The fourth instructional competence was competence number 71, "evaluate one's own techniques and methods of teaching." This competence appears in Table 8 and received an essential rating of 91.2 percent. It received the greatest rating for daily use with about an even choice for preservice or inservice and about a two to one edge for development in a specialized course.

The fifth instructional competence was number 57, "evaluate student's progress in class, home and laboratory assignments." This competence appears in Table 9 and shows no significance disagreement between beginning and experienced teachers. The daily use and specialized courses were favored more than two to one with the emphasis in preservice rating slightly higher than inservice.

The sixth instructional competence selected was number 13, "construct a lesson plan." This competence appears in Table 10 and received an essential rating of 87.9 percent. Teachers indicated this competence was needed frequently with more than 84.0 percent selecting daily or weekly use. The preservice and specialized course was heavily favored. There was no significant difference between the beginning and experienced teachers to this competence.

The seventh instructional competence was number 6, "formulate objectives for lessons, units, or courses." Table 11 shows this competence received an 87.5 percent essential rating and beginning and experienced teachers disagreed significantly at the 0.01 level on emphasis with experienced teachers favoring preservice or both more than beginning teachers. Both agreed on frequency of use and favored a specialized course for its development.

The eighth instructional competence chosen was number 70, "evaluate outcomes of instruction." This competence appears in Table 12 and shows no significant difference between beginning and experienced teachers. This competence received an essential rating of 87.4 percent with a slight preference for frequent use. The choice between preservice and inservice was about equal with the specialized course being favored.

The ninth instructional competence was number 31, "introduce a lesson." This competence appears in Table 13 and received an essential rating of 86.1 percent. The beginning and experienced teachers disagreed significantly at the 0.05 level on the frequency of use and where the emphasis should be. Both groups selected a specialized course for the development of this competence.

The tenth instructional competence rated essential with an 87.1 percent was competency 49, "demonstrate a manipulative skill." There was no significant difference in the two groups as indicated in Table 14. The frequency of use column gave an eight to one advantage to daily or weekly usage. Emphasis on preservice and specialized course was chosen by a two to one advantage.

The eleventh instructional competence ranked with an 85.4 percent was competency number 50, "present a concept or principle through a demonstration." Table 15 shows daily or weekly was chosen by 86.6 percent and preservice and specialized course received about 60.0 percent each. There was no significant disagreement between the groups.

The twelfth instructional competence was number 17, "determine in-school learning experience (classroom and laboratory)." Table 16 shows daily or weekly use receiving 70.0 percent preference with no difference in the choice between preservice and inservice and the specialized course receiving a 73.0 percent preference. The beginning and experienced teachers did not disagree significantly on any part of this competency.

The thirteenth instructional competency given an essential rating

of 85.1 percent was competence number 3, "formulate long-term objectives for the program." The beginning and experienced teachers disagreed significantly at the 0.05 level on the frequency of use with experienced heavily favoring annually and beginning spreading their choice as indicated in Table 17. They also disagreed significantly at the 0.05 level on emphasis with the experienced favoring preservice and the beginning favoring inservice. Both groups agreed on a specialized course rating it 70.1 percent.

The fourteenth instructional competence selected was number 18, "develop course outlines (content)." This competence was given an essential rating of 84.6 percent as shown in Table 18. Both groups agreed on frequency of use and type of course, and disagreed significantly at the 0.05 level where its development should be emphasized with beginning teachers favoring neither and preservice or inservice with experienced favoring preservice.

The fifteenth instructional competence was number 26, "react to student actions and behaviors (cues)." Table 19 shows both groups ranked daily or weekly at 96.6 percent preservice and inservice about 60 percent and favored specialized course. There was no significant disagreement on this competence.

The sixteenth instructional competence was number 5, "analyze skills (operations, procedures) relevant to course planning"as it appears in Table 20. Both groups were divided in frequency of use and between preservice and inservice with a specialized course receiving a two to one preference. There was no significant difference of opinion between beginning and experienced teachers on this competence.

The seventeenth instructional competence selected was number 42, "direct student laboratory experiences" with a rating of 84.2 percent as it appears in Table 21. Daily or weekly use was rated the choice 75.7 percent and preservice received slightly over 50.0 percent. Sixty-six percent preferred a specialized course and there was no significant disagreement between the beginning and experienced teachers.

The eighteenth instructional competence rated essential with 83.0 percent favoring competence number 27, "develop standards for student attainment." Table 22 shows both groups agreed on frequency of use with daily or weekly receiving 63.2 percent of the choices. They disagreed significantly at the 0.01 level on the emphasis with beginning teachers choosing inservice and experienced selecting preservice or both. Specialized courses were favored by both groups by 64.5 percent.

The nineteenth instructional competence was competence number 20, "select teaching techniques, strategies and methods (includes instructional media and aids)." Table 23 shows daily or weekly use and specialized course received about two-thirds of the choices with preservice and inservice about half and half for both groups. There was no significant disagreement between the groups.

The twentieth instructional competence was competence number 69, "evaluate classroom facilities and equipment" as shown in Table 24. Daily, monthly and annually received about equal choice by both groups and preservice and inservice about equal. The groups preferred the specialized course by two to one. There was no significant disagreement between beginning and experienced teachers for this competence.

The twenty-first instructional competence was competence number 9, "develop instructional material (information sheets, transparencies, bulletin board materials)" as indicated in Table 25. The average essential rating was 82.2 percent but the groups disagreed significantly at the 0.05 level on the competence being essential with the beginning group rating it 76.3 percent essential and the experienced group rating it 87.9 percent essential. Both groups indicated it was needed for daily or weekly use by 70.0 percent. The groups also disagreed significantly at the 0.01 level as to emphasis with beginning teachers favoring inservice and experienced teachers favoring preservice. There was no significant disagreement as to type of course with both groups preferring specialized by 61.4 percent.

The twenty-second instructional competence was competence number 14, "develop a system for recording and filing subject matter materials." Table 26 shows this competence received an essential rating of 81.7 percent. It received a rating of 60.0 percent favoring daily or weekly use and specialized courses. Preservice was favored by about 54.0 percent. There was no significant disagreement between beginning and experienced teachers for either facet of the competence.

The twenty-third instructional competence was competence number 68, "analyze the results of a written test" as indicated in Table 27. Seventy-two percent favored daily or weekly use. The groups disagreed at the 0.05 level of significance on emphasis with beginning teachers favoring inservice more than experienced teachers. Both groups favored a specialized course rating it 57.4 percent.

The twenty-fourth instructional competence was competence number 30, "guide students in keeping records" as indicated in Table 28. Both groups agreed on frequency of use giving daily or weekly use 70.0 percent and the specialized course a 71.0 percent rating. The groups disagreed significantly at the 0.05 level on the emphasis with beginning teachers favoring inservice 13.0 percent more than experienced teachers.

The twenty-fifth instructional competence was number 67, "administer tests" as shown in Table 29. The beginning teachers rated the competence essential with a rating of 75.0 percent. They disagreed significantly at the 0.05 level with the experienced teachers who rated the competence essential at 85.4 percent. Both groups agreed on daily or weekly use at 73.0 percent, preservice emphasis at 63.0 percent and favored a specialized course at 56.0 percent.

The twenty-sixth instructional competence was competence number 48, "present a lesson with the aid of a chalkboard" as shown in Table 30. The groups disagreed significantly at the 0.05 level with the beginning teachers rating the competence essential in 73.7 percent to 85.4 percent by experienced teachers. Both groups agreed on frequency of use with daily or weekly receiving 89.0 percent, the preservice emphasis received 65.6 percent and the specialized course was favored by 58.0 percent.

The twenty-seventh instructional competence was competence number 45, "use problem-solving techniques." Table 31 shows this competence was rated 79.4 percent by both groups. Daily or weekly use was favored by both groups by 85.4 percent. They disagreed significantly at the 0.05 level on where the competence should be emphasized with

experienced teachers favoring preservice or both by a 13.0 percent margin and the beginning teachers favoring inservice by 13.0 percent. Both groups favored a specialized course by 65.0 percent.

The twenty-eighth instructional competence was competence number 54, "guide students in analyzing their records." Table 32 shows this competence received 78.8 percent essential rating with use divided between daily and monthly at 40.0 percent each and 15.0 percent favoring annual. Preservice received 50.0 percent, inservice 45.0 percent and both 5.0 percent, with the specialized course receiving 70.0 percent. There was no significant disagreement between the groups.

The twenty-ninth instructional competence was competence number 55, "evaluate test and reference materials to meet course objectives." Table 33 shows annual use received 54.7 percent of the choices with the remainder divided between daily and monthly. The groups were divided about 50 percent each between preservice and inservice with the specialized course being favored by two to one. The groups did not disagree significantly on any part of the competence.

The thirtieth instructional competence was competence number 60, "evaluate accomplishments of the FFA Chapter," Table 34 shows 78.2 percent rated this competence essential with 44.3 percent rating monthly use the highest. Both groups rated preservice 52.0 percent with both favoring specialized course by 80.0 percent. There was no significant disagreement on any part of this competency.

The thirty-first instructional competence was competence number 41, "direct programmed instruction (teaching machine or text)" with a 75.7 percent rating as indicated in Table 35. The groups disagreed

significantly at the 0.05 level on the frequency of use with the beginning teachers favoring daily or weekly. Both groups rated preservice and inservice about equal while favoring specialized courses by about a two to one margin.

The thirty-second instructional competence was competence number 21, "organize the sequence of learning tasks" as indicated in Table 36. Both groups rated daily use 55.0 percent with the remainder divided between monthly and annually. Preservice was favored by 51.0 percent and the specialized courses received 64.3 percent of the rating. The groups did not significantly disagree on any part of this competence.

The thirty-third instructional competence was competence number 56, "establish evaluative criteria for lessons, units or courses." Table 37 shows 75.1 percent rated this competence essential with use divided about equal between daily, monthly, and annually. The groups disagreed significantly at the 0.01 level of emphasis with the beginning teachers favoring inservice and the experienced teachers favoring preservice. Both groups favored the specialized courses by about two to one.

The thirty-fourth instructional competence was competence number 46, "use small group instruction." Table 38 shows the group disagreed significantly at the 0.05 level on need and at the 0.01 level on emphasis. The beginning teachers rated the need 66.1 percent as compared to 82.1 percent for experienced teachers. The beginning teachers rated preservice 58.0 percent while the experienced teachers rated it 71.0 percent. Both groups agreed on daily use of 81.0 percent and specialized course 63.0 percent.

The thirty-fifth instructional competence was competence number 29, "guide students in setting standards and evaluating progress in their programs." Table 39 shows significant disagreement at the 0.05 level as to need with a beginning teachers rating of 68.0 percent essential and 80 percent essential by experienced teachers. Both groups agreed on daily use at 67.0 percent, preservice by 49.0 percent to 45.0 percent with 5.0 percent indicating both and favored the specialized course by 64.0 percent.

The thirty-sixth instructional competence was competence number 44, "give an illustrated talk" as indicated in Table 40. Both groups agreed it was essential at 72.9 percent and would be used daily or weekly at 78.0 percent. They emphasized preservice 63.4 percent and favored the specialized course 60.2 percent. The groups did not disagree significantly on any part of the competency.

The thirty-seventh instructional competence was competence number 59, "evaluate projects in agricultural mechanics" as indicated in Table 41. The two groups disagreed significantly at the 0.05 level as to the need with beginning teachers rating the competence 64.3 percent essential and experienced teachers indicated an essential rating of 80.5 percent. The groups agreed on daily use at 70.0 percent, preservice emphasis at 57.0 percent and a specialized course at 80.0 percent.

The thirty-eighth instructional competence was number 47, "utilize supervised study." Table 42 shows a mean rating of 71.0 percent essential and the groups disagreed significantly at the 0.01 level with beginning teachers rating it 61.5 percent and experienced teachers

rating it 79.8 percent. However, both groups agreed on daily use at 80.0 percent, preservice emphasis at 64.0 percent and specialized course at 65.0 percent.

The thirty-ninth instructional competence was competence number 16, "develop written goals and objectives to be attained in the instruction of each class." Table 43 shows this competence was rated essential by 71.0 percent essential, its use was divided between 52.0 percent daily, 20.0 percent monthly, and 29.0 percent annually. The groups disagreed significantly at the 0.01 level on emphasis with the experienced teachers preferring preservice or both by 71.3 percent to 56.6 percent by beginning teachers. Both were in agreement on a specialized course at 68.0 percent.

The fortieth instructional competence was number 52, "obtain closure for a lesson." Table 44 indicates an essential rating of 70.8 percent, with 89.3 percent favoring daily use, 61.3 percent emphasizing preservice, with 59.5 percent favoring a specialized course. There was no significant difference of opinion on any part of their perceptions to the competence.

The forty-first instructional competence was number 4, "involve administrators and teachers in program planning." Table 45 indicates an essential rating of 70.5 percent and a majority of 57.8 percent preferred an annual use. Beginning and experienced teachers disagreed significantly at the 0.05 level on emphasis with the beginning teachers preferring inservice 62.9 percent to 47.5 percent for experienced teachers. The specialized course was slightly favored at 53.8 percent with the experienced rating it higher than beginning.

The forty-second instructional competence was competence number 23, "develop strategies to assist students in selecting occupational experience programs." This was the last instructional competence receiving a 70.0 percent rating and it appears in Table 46. Beginning and experienced teachers did not disagree significantly in any way on this competence. The frequency of use was divided about even between daily, monthly and annually with preservice and inservice divided equally. They gave the specialized course a 71.2 percent rating.

The only coordination competence to receive above a 70.0 percent rating was number 11, "develop procedure to insure student-learner's safety and protection." This competence appears in Table 47 showing 42.7 percent daily or weekly use and inservice emphasis leading preservice 49.2 percent to 43.0 percent. The specialized course was favored by two to one. Since this was the only one of the nineteen coordination competencies receiving an essential rating high enough to include in the discussion, the coordination competencies were not rated important by a large number of teachers. By referring back to Table 4 (page 45) on rank and mean scores, it shows only three other competencies were rated essential above 60.0 percent.

The management competencies were rated higher with twelve competencies receiving a 70.0 percent or better essential rating. The management competence receiving the highest rating was competence number 5, "implement safety procedures." Both groups agreed on all facets of this competence giving it the highest rating in the study of 95.0 percent. Table 48 also shows 69.4 percent selected daily or weekly

use with preservice being slightly favored over inservice and 66.0 percent favoring development in a specialized course. There was no significant disagreement to this competence.

The second management competence was number 12, "maintain equipment and tools." Table 49 shows 93.8 percent rated this competence essential, with 73.5 percent indicating daily or weekly use. Preservice was slightly favored by both groups with development in both receiving about 10.0 percent of the preference. The specialized course received 69.2 percent preference with no significant disagreement to any part of the competence.

The third management competence was competence number 15, "maximize use of student's time and equipment." This competence received an essential rating of 88.8 percent with 87.1 percent indicating daily or weekly use as shown in Table 50. Preservice emphasis was preferred by 51.0 percent and the specialized course was favored by 70.8 percent. There was no significant disagreement on any part of the competence.

The fourth management competence was competence number 16, "develop a system for cleaning and maintaining the laboratory. This competence was rated essential by 88.7 percent of the teachers with 77.4 percent indicating a daily or weekly use as shown in Table 51. Preservice development was preferred by 52.0 percent of the teachers with 67.0 percent preferring the specialized course. There was no significant disagreement between beginning and experienced teachers to any phase of this competency.

The fifth management competence was number 13, "arrange mechanical

details of the classroom and laboratory." Table 52 indicates significant disagreement at the 0.05 level between the beginning and experienced teachers with beginning rating the competence essential by 73.3 percent to 87.0 percent by experienced teachers. The groups rated daily or weekly 51.2 percent with neither preservice nor inservice receiving a majority preference. The specialized course was favored by 70.0 percent.

The sixth management competence was number 4, "establish detailed rules and regulations for laboratory participation." Table 53 indicates 78.2 percent rated this competence essential. Annual use received a 55.0 percent rating and inservice was rated above preservice 47.4 percent to 44.6 percent. The specialized course was favored by 65.9 percent of both groups. The groups did not significantly disagree to any facet of this competency.

The seventh management competence was competence number 11, "implement a system for providing consumable supplies." Table 54 shows this competence was rated essential by 77.0 percent of the teachers. The teachers significantly disagreed at the 0.05 level on the frequency of use with experienced teachers rating annual use 69.0 percent to 50.5 percent for beginning teachers. Inservice was preferred by 5.0 percent margin with a specialized course being preferred by 66.0 percent of both groups.

The eighth management competence was competence number 17, "participate in conferences to coordinate activities in local department." Table 55 indicates this competence received a 76.6 percent

essential rating with the monthly use receiving the highest rating of 44.7 percent. Inservice was favored at 53.9 percent with the specialized course received a 67.0 percent rating. There was no significant disagreement as to any part of the competency.

The ninth management competence was number 10, "prepare a program budget" as indicated in Table 56 received an essential rating of 75.9 percent. This competence received an annual use rating of 87.6 percent with inservice receiving the highest rating of 48.3 percent. Specialized course was favored by 66.2 percent and there was no significant disagreement on any phase of the competency.

The tenth management competence was competence number 14, "schedule student's work station and storage space in laboratory or shop." Table 57 shows this competence received an essential rating of 74.2 percent with 60.3 percent indicating a daily or weekly usage. Neither preservice nor inservice received a majority preference, but specialized course received a 68.0 percent performance. There was no singificant disagreement to any facet of this competency.

The eleventh management competence was competence number 18, "develop outline to guide students in writing objectives for FFA program of work." Table 58 indicated this competence received a 71.5 percent essential rating and 58.9 percent annual use rating. Neither preservice nor inservice received a majority preference with specialized course being preferred by 76.2 percent of the respondents. There was no significant difference on any part of this competence.

The twelfth management competence was number 19, "prepare program

evaluation reports." Table 59 shows this competence received an essential rating of 70.7 percent. Beginning and experienced teachers disagreed significantly at the 0.05 level on frequency of use with beginning rating annual 52.4 percent to 69.0 percent for experienced teachers. Neither preservice nor inservice received a majority but specialized course was favored by 71.0 percent.

A summary of the findings drawn from the data presentation and analysis of the fifty-five competencies rated essential are presented in three tables which summarize the average reaction with respect to frequency of use, where the development of this competence should be emphasized and the type of course where it should be developed.

Table 60 shows the average responses to the forty-two instructional competencies rated essential at 70.0 percent higher. The daily usage of those competencies received an essential rating of 61.73 percent. The preservice development of all competencies was preferred by a 54.85 percent rating. The development in a specialized course received a 65.36 percent rating.

Table 61 depicts the averages for the only coordination competence which received an essential rating of above 70.0 percent. The use was rated about equal with inservice slightly preferred over preservice but not receiving a majority. The specialized type of course waspreferred by 64.4 percent.

Table 62 depicts the average responses to the three aspects of the twelve management competencies which received a 70.0 percent or greater essential rating. The frequency of use part was divided between

44.63 percent preferring daily or weekly, 18.60 percent preferring monthly and 36.80 percent preferring annually. The preservice development was favored by 47.29 percent. The specialized course received the highest percentage rating of 68.82 percent.

III. SUMMARY OF REGIONAL DATA

The regional data do not possess the validity of the national data because of the small number of returns per region causing the crosstabulation to yield a number of cells with less than five frequencies per cell. However, the data are being summarized here and listed in the Appendix to show where teachers disagreed on a regional basis.

The frequency count for beginning and experienced teachers of agriculture yielded a number of differences on a regional basis with respect to the frequency of use, where the development should be emphasized and the type of course the competence should be developed. Many of those competencies where beginning and experienced teachers disagreed were irrelevant to the study because they received below the 70.0 percent consensus rating required to be considered essential for this study.

There were several differences of opinion in the central region (see Appendix I). None of the instructional competencies which teachers disagreed on received an essential rating of 70.0 percent. Several differences in the frequency of use and emphasis area were recorded. The management area had two differences of opinion in the essential rating category and both were ranked in those competencies with better than a 70.0 percent rating. There was no disagreement in the coordination competencies.

The Pacific region had the fewest disagreements of all the areas (see Appendix I). They disagreed only two times as to which competencies were essential and only four times on the frequency of use. This was the only significant disagreement between the beginning and experienced teachers from California and Colorado.

There was considerable disagreement in the responses from the Southern region (see Appendix I). The beginning and experienced teachers from Florida and Virginia disagreed on the essential need of thirteen competencies but only four of this group rated 70.0 percent consensus. They also disagreed on the frequency of use of nine of the seventy-one instructional competencies. There were only two disagreements in the coordination competencies and none in the mamagement.

The North Atlantic region had more disagreements than any group (see Appendix I). This was a clear difference of opinion between beginning and experienced teachers. There were a few disagreements in the essential rating and frequency of use. However, the greatest difference of opinion was in emphasis and type of course categories. The beginning and experienced teachers disagreed on thirty-four of the 109 competencies as to where the competence should be developed. All experienced teachers favored developing these competencies in preservice with beginning teachers favoring their development in inservice programs in all but three instances. The type of course preferred by all experienced teachers was the specialized course with all beginning teachers preferring an integrated course.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

I. SUMMARY

The purpose of the study was to verify the need for a number of previously identified professional competencies in the areas of instruction, coordination and management. Answers to the following questions were sought:

1. Which of the selected professional competencies do secondary teachers of agriculture rate as essential?
2. Having identified these competencies as essential, how often do teachers use them in their teaching?
3. Where should the development of these competencies be emphasized? In preservice or inservice education?
4. Should these competencies be developed in a specialized service area course or an integrated vocational-technical education course?
5. Which of the essential competencies do beginning and experienced teachers significantly disagree?

A questionnaire was developed (see Appendix E) to collect the data needed. Three processes were utilized in the development of the questionnaire. First, a review of the literature related to competency based teacher education was completed. From this review of the literature, a listing was made of those competencies which previously had been

judged to be unique, significantly different for agriculture teachers or those competencies which beginning and experienced teachers of agriculture disagreed. This list was then checked for duplication by this researcher and submitted to a jury of specialists (see Appendix A) for review and suggested revision. A number of revisions in statements was made by the jury of specialists. The questionnaire was field tested with a group of secondary teachers of agriculture and prepared for mailing.

The sample consisted of 554 secondary teachers of agriculture from eight states. This consisted of 277 beginning and 277 experienced teachers of agriculture. They were selected from a total population of 2,980 teachers with 377 being beginning teachers of agriculture and 2,603 being experienced teachers of agriculture. The teachers were selected from two states in each of the four major regions of the United States. The two states selected from each region were those with the largest number of beginning teachers except in the Southern region where the second and third largest states were selected.

The mailing of questionnaires and follow-up material began in September, 1973 and was completed in January, 1974. The returns were collected through March 1, 1974. After receiving and processing the returns, the data showed 55 of the 109 competencies had received an essential rating of 70 percent or higher. Of the 55 competencies rated essential, beginning and experienced teachers of agriculture only disagreed on twenty-nine areas out of a possible of 220 or 13.18 percent. These were significant disagreements as recorded by the Chi-square

computations in the SPSS program. Of these disagreements, seven were on the need for a competence. In all seven cases, the experienced teachers rated the competence essential by the highest percentage. There was no agreement between beginning and experienced teachers with respect to the five disagreements concerning frequency of use. Some teachers from both groups favored daily or weekly use. In the area where a course should be emphasized, there were fifteen disagreements and in all cases the experienced teachers favored the preservice development of the competency. There was no disagreement in the type of course the competence should be developed.

II. CONCLUSIONS

The conclusions presented in this section were drawn from the findings of this study. It is hoped these conclusions and the recommendations in the next section will serve as catalysts for the continued development and improvement of teacher education for secondary teachers of agriculture.

1. Forty-two of the seventy-one instructional competencies previously identified were considered essential for secondary teachers of agriculture receiving an essential rating of 70 percent or above, only one of the nineteen coordination competencies received a rating of above 70 percent and twelve of the nineteen management competencies received an essential rating of 70 percent or above.
2. Teachers do not agree on the frequency of use of each of

these competencies but agreed more on the use of the instructional competencies with 61.73 percent agreeing on daily or weekly usage.

3. There was no strong preference as to where these competencies should be developed. The instructional competencies received a 55 percent preference for preservice development with neither of the coordination or management competencies receiving a majority preference.

4. There was more agreement on the type of course where the competencies should be developed. Of those responding, 66.2 percent favored a specialized course.

5. There was very little disagreement between beginning and experienced teachers on a national basis because they disagreed only 13.18 percent of the time out of a possible 220 responses.

6. On a regional basis, there was considerable disagreement between beginning and experienced teachers particularly in the Northeast, or the states of New York and Pennsylvania (see Appendix I). Although this was a very small sample and its validity would be questioned, the frequency count and percentage showed experienced teachers favoring developing the competencies in preservice courses with the beginning teachers favoring inservice education to develop the competencies.

III. RECOMMENDATIONS

The recommendations were drawn from an analysis of the conclusions and an evaluation of the length of time required to complete the study.

1. A split questionnaire should be given to teachers where the respondents would not have to respond to so many questions such as in this study where a maximum of 436 responses were required for a completed questionnaire. This could improve the number and completeness of returns. Several questionnaires were returned without a response and a few had so few responses they were not usable.
2. More attention should be given to studying the time factor involved in developing specific competencies. This was pointed out by one of the members of the AATEA committee on professional goals and by other citations in the literature review.
3. Since there was some disagreement between beginning and experienced teachers, an intermediate group of teachers which had taught five years should be utilized to narrow the experience gap and see if the experience or changes in teacher preparation of a longer period of time contributes to differences of opinion between groups.
4. Teacher educators should compare the content of their methods of teaching courses in their preservice curriculum to the 41 instructional competencies rated essential by the secondary

agriculture teachers because 55 percent of those responding felt these competencies should be developed at the preservice level.

5. Further study of the coordination and management competencies should be done to determine whether these competencies could be developed best at the preservice or inservice level since neither choice received above 50 percent preference.
6. Since two out of every three responding agriculture teachers favored the developing of professional competencies in a specialized course which was defined in the general instructions as taught by agricultural educators for agricultural education majors. Vocational education department heads should scrutinize courses developed for all vocational teachers to be sure these broad-based courses meet the needs of the teachers in all service areas represented.

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APPENDICES

APPENDIX A

JURY OF SPECIALISTS

Boreing, Cecil, East Tennessee Regional Supervisor, State Department of Education, Knoxville, Tennessee.

Byerly, Paul, Experienced Agriculture Teacher, Horace Maynard High School, Maynardville, Tennessee.

Cameron, Walter, Assistant Professor, College of Education, The University of Tennessee, Knoxville, Tennessee.

Carpentar, Lewis, East Tennessee Regional Supervisor, State Department of Education, Knoxville, Tennessee.

Craig, David G., Associate Professor, College of Education, The University of Tennessee, Knoxville, Tennessee.

Culligan, James, Doctoral Student, The University of Tennessee, Knoxville, Tennessee.

Dixon, Paul, Doctoral Student, The University of Tennessee, Knoxville, Tennessee.

Holt, Raymond A., Doctoral Student, The University of Tennessee, Knoxville, Tennessee.

Johnson, Elmo, East Tennessee Regional Coordinator, State Department of Education, Knoxville, Tennessee.

Jones, Ray, Experienced Agriculture Teacher, Halls High School, Knoxville, Tennessee.

McDaniel, Dwight, Beginning Agriculture Teacher, Powell Valley High School, Speedwell, Tennessee.

McIlwain, L. M., Experienced Agriculture Teacher, Clinton High School, Clinton, Tennessee.

Pennycuff, Joe, Beginning Agriculture Teacher, Oneida High School, Oneida, Tennessee.

Ramsey, Harold, Beginning Agriculture Teacher, Hancock County High School, Sneedville, Tennessee.

Todd, John D., Associate Professor, College of Education, The University of Tennessee, Knoxville, Tennessee.

APPENDIX B

CLASS ROLL FOR AGRICULTURAL EDUCATION 4610 IN WHICH THE QUESTIONNAIRE WAS FIELD TESTED SUMMER QUARTER 1973

Wilson G. Belcher

Martin F. Carter

Gary B. Davis

William R. Dinwiddie

James E. Dyer

Buddy L. Farmer

Herbert L. Helton

LeRoy Helton

Carl E. Hickman

Richard H. Howerton

Damon Morgan

Billy L. Norris

Burnett Odell

Samuel T. Owens

APPENDIX C

July 16, 1973

Dear_____,

I am working on a study concerning "Selected Professional Competencies for Secondary Teachers of Agriculture." The competencies have already been reviewed by a jury of specialists in the field if agricultural education. My committee felt since the survey would be conducted in eight states with beginning and experienced teachers of agriculture, it should be field tested and critiqued by a group of agriculture teachers before printing into final form for mailing.

The questionnaire attempts to evaluate the need for selected competencies, their frequency of use, where they should be developed and in what type of course they would preferably be developed. A more precise explanation of each category you are asked to react to would be:

a. Need: You would have to be able to perform the task yourself

b. Frequency: Use under normal circumstances.

c. Where it should be developed:
   (1) Preservice - All work taken prior to receiving B. S. Degree
   (2) Inservice - Workshops, experiences and college courses taken after receiving B. S. Degree for certification and/or graduate degrees

d. Type of course:
   (1) Specialized - Taught by agricultural educators for agricultural education majors
   (2) Integrated - Taught by vocational educators for all vocational education majors (Ag., D. E., Home Ec., etc.)

Please check the appropriate columns for each competency as indicated by the instructions at the beginning of the questionnaire. Your frank opinion as to the clarity of any part of the questionnaire will be accepted as constructive criticism and used to improve the questionnaire. Permit me to express my appreciation in advance for your contribution to this study.

Sincerely,

Roy K. Norris

APPENDIX D

AATEA COMMITTEE SUGGESTIONS

Specific suggestions from the AATEA Committee were as follows:

(1) Improved use of related literature

(2) Check on work at Wayne State University

(3) Restructure competencies more definitive and measurable

(4) Eliminate duplication

(5) Secure some personal data

(6) Look at time factor related to the time required to develop competencies

(7) Work toward overcoming built-in biases and self-fulfilling prophecies

APPENDIX E

GENERAL INSTRUCTIONS

This study seeks your judgment relating to "Selected Professional Competencies for Secondary Teachers of Agriculture." The competencies (skills, tasks or abilities) will be analyzed as to their need, frequency of use, where their development should be emphasized, and the type of course in which the competencies would preferably be developed. For the purpose of this study, the following explanations should expedite your responses:

a. Need: You would have to be able to perform the task yourself

b. Frequency: Use under normal circumstances

c. Where it should be emphasized:
   1. Preservice - Includes all work taken prior to receiving B. S. or Equivalent Degree
   2. Inservice - Includes workshops, small or large group conferences, college courses and other appropriate experiences after receiving the B. S. or Equivalent Degree

d. Type of course:
   1. Specialized - Taught by agricultural educators for agricultural education majors
   2. Integrated - Taught by vocational educators for all vocational education majors (Ag., D. E., Home Ec., etc.)

Please check the appropriate columns for each competency as indicated by the instructions at the beginning of the questionnaire. The example on the first page is checked in the first column of each category just to emphasize most of the competencies will require four responses and in no way suggests which column you will check. If you feel additional competencies should be added, please feel free to write them on the back of any page.

PROFESSIONAL BACKGROUND

STATE_____ NUMBER_____

Please check the appropriate blank as to professional background and continue with the questionnaire as indicated in the general instructions.

Type of College or University Department the B. S. or Equivalent Degree was earned.

Specialized_____ Integrated_____

Type of College or University Department the M. S. or Equivalent Degree was earned.

Specialized_____ Integrated_____

Type of College or University Department the Specialist, Doctorate, or other work was earned.

Specialized_____ Integrated_____

Years of Teaching Experience

_____1-5,_____6-10,_____11-20,_____21-30,_____31-40, and_____over 40

Please complete this form by placing (✓) in EACH column to indicate your perception to the need and frequency of use and as to when and where these competencies should be developed in the preparation of secondary teachers of agriculture.

INSTRUCTIONAL COMPETENCIES (PLANNING TYPE 1-24)	Needed for my Job			Frequency of Use			Where it Should be Emphasized		Type of Course	
	Essential	Desirable but not essential	Does not apply	Daily and/or weekly	Monthly	Annually	Preservice	Inservice	Specialized (Serv-Area)	Integrated (Voc-Tech)
Ex. Determine instructional media	✓			✓			✓		✓	
1. Organize an advisory committee										
2. Consult advisory committee for program planning										
3. Formulate long-term objectives for the program										
4. Involve administrators and teachers in program planning										
5. Analyze skills (operations, procedures) relevant to course planning										
6. Formulate objectives for lessons, units, or courses										
7. Select and/or develop instructional content for a lesson										
8. Determine instructional units										
9. Develop instructional material (information sheets, transparencies; bulletin board materials)										
10. Reproduce instructional materials with a mimeograph machine										
11. Reproduce instructional material with spirit duplicator										
12. Reproduce instructional material (hard copy and transparency										
13. Construct a lesson plan										
14. Develop a system for recording and filing subject matter materials										
15. Determine student needs and goals										
16. Develop written goals and objectives to be attained in the instruction of each class										
17. Determine in-school learning experiences (classroom or laboratory)										
18. Develop course outlines (content)										
19. Develop course calendars (dates)										
20. Select teaching techniques, strategies, and methods (includes instructional media & aids)										
21. Organize the sequence of learning tasks										
22. Determine the need for resource persons										

	INSTRUCTIONAL COMPETENCIES (EXECUTION TYPE 25-52)	Needed for my Job			Frequency of Use			Where it Should be Emphasized		Type of Course	
		Essential	Desirable but not essential	Does not apply	Daily and/or weekly	Monthly	Annually	Preservice	Inservice	Specialized (Serv-Area)	Integrated (Voc-Tech)
23.	Develop strategies to assist students in selecting occupational experience programs										
24.	Integrate all aspects of the instructional program										
25.	Conduct a visit to student's home for instructional purposes										
26.	React to student actions and behaviors (cues)										
27.	Develop standards for student attainment										
28.	Present study techniques										
29.	Guide students in setting standards and evaluating progress in their programs										
30.	Guide students in keeping records										
31.	Introduce a lesson										
32.	Utilize 8 mm single concept film										
33.	Utilize 16 mm projector										
34.	Present a lesson with audio tape, disc recording or radio receiver as resources										
35.	Direct programmed instruction (teaching machine or text)										
36.	Present a lesson with closed circuit TV										
37.	Present a lesson with overhead projector and/or opaque projector										
38.	Present information with the assistance of a resource person										
39.	Direct role playing										
40.	Present a lesson using a prepared skit (standardized, teacher or pupil written)										
41.	Conduct a field trip										
42.	Direct student laboratory experiences										
43.	Give a lecture										
44.	Give an illustrated talk										
45.	Use problem-solving techniques										
46.	Use small-group instruction										
47.	Utilize supervised study										
48.	Present a lesson with the aid of a chalkboard										

	INSTRUCTIONAL COMPETENCIES (EVALUATION TYPE 53-71)	Needed for my Job			Frequency of Use			Where it Should be Emphasized		Type of Course	
		Essential	Desirable but not essential	Does not apply	Daily and/ or weekly	Monthly	Annually	Preservice	Inservice	Specialized (Serv-Area)	Integrated (Voc-Tech)
49.	Demonstrate a manipulative skill										
50.	Present a concept or principle through a demonstration										
51.	Give an assignment for outside work										
52.	Obtain closure for a lesson (summarize)										
53.	Involve others in evaluating the program										
54.	Guide students in analyzing their records										
55.	Evaluate text and reference materials to meet course objectives										
56.	Establish evaluative criteria for lessons, units or courses										
57.	Evaluate student's progress in class, home and laboratory assignments										
58.	Utilize progress charts in agricultural mechanics										
59.	Evaluate projects in agricultural mechanics										
60.	Evaluate accomplishments of the FFA Chapter										
61.	Devise laboratory performance tests										
62.	Formulate essay test items										
63.	Formulate completion test items										
64.	Formulate multiple-choice questions										
65.	Formulate true-false questions										
66.	Formulate matching test items										
67.	Administer tests										
68.	Analyze the results of a written test										
69.	Evaluate classroom facilities and equipment										
70.	Evaluate outcomes of instruction										
71.	Evaluate one's own techniques and methods of teaching										

MANAGEMENT COMPETENCIES	Needed for my Job			Frequency of Use			Where it Should be Emphasized		Type of Course	
	Essential	Desirable but not essential	Does not apply	Daily and/or weekly	Monthly	Annually	Preservice	Inservice	Specialized (Serv-Area)	Integrated (Voc-Tech)
1. Consult advisory committee in planning for facilities and equipment needs										
2. Involve the advisory committee in evaluation of physical facilities, equipment and supplies										
3. Develop or assist in developing policy for use of facilities by other school personnel										
4. Establish detailed rules and regulations for laboratory participation										
5. Implement safety procedures										
6. Group students according to individual differences										
7. Make financial arrangements for special banquets										
8. Make financial arrangements for adult programs										
9. Develop ability to file claim forms to receive approval from state agencies										
10. Prepare a program budget										
11. Implement system for providing consumable supplies										
12. Maintain equipment and tools										
13. Arrange mechanical details of the classroom and laboratory										
14. Schedule student's work station and storage space in laboratory or shop										
15. Maximize use of student's time and equipment										
16. Develop a system for cleaning and maintaining the laboratory										
17. Participate in conferences to coordinate activities in local department										
18. Develop outline to guide students in writing objectives for FFA program of work										
19. Prepare program evaluation reports										

COORDINATION COMPETENCIES	Needed for my Job			Frequency of Use			Where it Should be Emphasized		Type of Course	
	Essential	Desirable but not essential	Does not apply	Daily and/or weekly	Monthly	Annually	Preservice	Inservice	Specialized (Serv-Area)	Integrated (Voc-Tech)
1. Conduct a community survey										
2. Maintain a current file of jobs and employers										
3. Secure advisory committee recommendations for training stations										
4. Assist in developing policy on absenteeism, work schedule (hours), job transfer and wages										
5. Develop plan to obtain assistance of local directors and state supervisory staff										
6. Develop a public relations plan for cooperative program										
7. Evaluate the facilities of prospective training stations										
8. Select training stations										
9. Conduct training station development program										
10. Develop a systematic training plan with a cooperating employer										
11. Develop procedure to insure student-learner's safety and protection										
12. Assist student-learners in job orientation										
13. Submit training plans to proper educational and labor representatives										
14. Develop evaluation forms for on-the-job training										
15. Administer evaluation forms for on-the-job training										
16. Interpret evaluation forms for on-the-job training										
17. Involve cooperating employer in the evaluation of student-learner's performance										
18. Discuss on-the-job training progress reports with students										
19. Obtain follow-up information from graduates and former student-learners										

APPENDIX F

The University of Tennessee
College of Education
Knoxville 37916

Department of Vocational-Technical Education
Agricultural, Business, Distributive, Home Economics and Industrial Education

September 7, 1973

Dear California Teachers of Agriculture,

Your name was randomly selected from a list of teachers provided by Mr. Donald E. Wilson. A copy of his letter is enclosed to assure you he has knowledge of the study and has granted permission to work with the teachers in California. Being a large state and a leader in vocational education, you will add to the value of this national study. The study seeks your judgement or opinion to a number of professional competencies applicable to secondary teachers of agriculture.

The proposal was critiqued by four members of the Committee on National Goals of the American Association of Teacher Educators in Agriculture. They feel the study can make a positive contribution to teacher education in the field of agricultural education. With your cooperation and prompt response, a preliminary summary of this study will be reported to the AATEA section of the AVA Convention in Atlanta in December 1973. The final summary will be submitted to the Agricultural Education Magazine.

As we hear more about Model Curricula and Competency-Based Teacher Education, we need to know where teachers of agriculture stand on the issue. In order for our voice to make an impact, your assistance is needed in this national study. Please respond to your questionnaire according to accompanying instructions. Your responses will be kept in strictest confidence and reported only as an aggregate without personal identity.

Sincerely,

/s/Roy K. Norris

Roy K. Norris

APPENDIX G

The University of Tennessee
College of Education
Knoxville 37916

Department of Vocational-Technical Education
Agricultural, Business, Distributive, Home Economics and Industrial Education

September 28, 1973

Dear Agricultural Educators:

May I take this opportunity to request your careful consideration in responding to the questionnaire "Selected Professional Competencies for Secondary Teachers of Agriculture" which you received about the middle of September. If you have already completed the questionnaire, please accept my thanks and this request as a routine follow up in regard to the questionnaire. If you have not found time to respond before now, I hope you will make a special effort to take a few minutes from your busy schedule sometime during the next few days to complete the questionnaire you received and return it at your earliest convenience.

This study is closely related to the performance-based teacher education we hear so much about these days. According to the September 1973 issue of Phi Delta Kappan, eleven states had mandated competency-based or performance-based programs for preparation of teachers or administrators as of May 20, 1973. Several other states were studying or in the process of adopting these programs. All of the states involved in this study have already adopted or been involved with this concept. You represent the leadership in this area and if you want your openions as Agricultural Educators to be considered as a group, please take time to complete the questionnaire. I have reviewed a number of regional studies in which Agrictural Educators were involved and the returns were 90 percent or better in every case.

I believe this is a very important issue and it needs your support to give the study the credibility it should have on a national level. We hope your responses will arrive in time to prepare the preliminary results for the AVA meeting in Atlanta beginning November 30, 1973.

Sincerely,

/s/ Roy K. Norris

Roy K. Norris

APPENDIX H

CHRONOLOGICAL LISTING OF ACTIVITIES

March and April, 1973 - Developed Preliminary Proposal

May 17, 1973 - Presented Proposal to Doctoral Committee

May 21, 1973 - Mailed Questionnaire to Jury of Specialists

May 25, 1973 - Mailed Copy of Preliminary Proposal to the AATEA Committee for critiquing

May 31, 1973 - Mailed Copy of Preliminary Proposal to the Director in Charge of Agricultural Education Seeking Permission to Conduct the Survey and a Copy of their 1972-73 Roster with the Beginning Teachers Marked

July, 1973 - Called State Supervisor which had not Responded to Request for Teacher Roster

July, 1973 - Final Revision and Printing of Questionnaire

August, 1973 - Drew Sample of Teachers to be used in Study

August, 1973 - Prepared Questionnaires for Mailing to Three Regions with the Six States Providing the Mailing List

September 7, 1973 - Mailed Pacific and Southern Region Questionnaires

September 10, 1973 - Mailed North Atlantic Region Questionnaires

September 28, 1973 - Follow-up Letter Mailed to Three Regions

November 5, 1973 - Sent Special Follow-up Letter to Florida

November 17;20, 1973 - Mailed Central Region Questionnaires

December 7, 1973 - Sent Follow-up Letter to Central Region

January 17, 1974 - Sent Special Follow-up Letter to Ohio

March 1, 1974 - Terminate Data Collection

June and July, 1974 - Recorded Data

August, 1974 - Processed Data

APPENDIX I

AN ABBREVIATED SUMMARY OF REGIONAL DIFFERENCES BETWEEN BEGINNING AND EXPERIENCED TEACHERS OF AGRICULTURE

PACIFIC (CALIFORNIA/COLORADO)

IA-16, IA-57, IB-24, IB-52, IB-55, IB-59

CENTRAL (ILLINOIS/OHIO)

IA-2, IA-32, IA-40, IB-09, IB-15, IB-19, IB-22, IB-60, IC-06, IC-08, IC-16, IC-17, IC-18, IC-56, MA-10, MA-19, MB-03

SOUTHERN (FLORIDA/VIRGINIA)

IA-33, IA-36, IA-38, IA-39, IA-40, IA-44, IA-45, IA-46, IA-47, IA-58, IA-62, IA-64, IA-65, IB-03, IB-32, IB-63, IB-64, IB-65, IB-66, IB-67, IB-68, CA-02, CB-01

NORTH ATLANTIC (NEW YORK/PENNSYLVANIA)

IA-19, IA-23, IA-25, IA-29, IA-30, IA-47, IA-58, IB-03, IB-09, IB-28, IB-47, IB-54, IC-06, IC-08, IC-15, IC-29, IC-31, IC-32, IC-34, IC-37, IC-40, IC-41, IC-46, IC-47, IC-48, IC-50, IC-53, IC-55, IC-56, IC-57, IC-59, IC-61, IC-62, IC-68, IC-70, IC-71, ID-03, ID-05, ID-08, ID-09, ID-11, ID-13, ID-14, ID-15, ID-16, ID-18, ID-19, ID-20, ID-21, ID-22, ID-31, CA-01, CC-07, CC-08, CD-01, CD-03, CD-11, CD-12, CD-14, CD-15, CD-16, CD-17, CD-18, CD-19, MA-18, MC-04, MC-11, MC-17, MC-18, MD-01, MD-02, MD-03, MD-04, MD-06, MD-11, MD-12, MD-15, MD-16

KEY

I - Instructional Competencies

C - Coordination Competencies

M - Management Competencies

A - Need Column

B - Frequency of Use Column

C - Emphasis Column

D - Type of Course Column

Numbers represent competence number on questionnaire.

APPENDIX J

TABLE 5

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DETERMINE INSTRUCTIONAL UNITS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	89.7	95.9	92.9
Desirable	10.3	4.1	7.1
Does Not Apply	0.0	0.0	0.0
Frequency of Use:[a]			
Daily or Weekly	41.6	33.9	37.7
Monthly	26.5	18.6	22.5
Annually	31.9	47.5	39.8
When Emphasized:[b]			
Preservice	49.5	67.2	58.9
Inservice	45.6	25.9	35.2
Both	4.9	6.9	5.9
Type of Course:			
Specialized	68.6	73.6	71.2
Integrated	27.6	24.5	26.0
Both	3.8	1.8	2.8

N = 239

[a]Significant at the 0.05 level.

[b]Significant at the 0.01 level.

[1]Competence number 8.

TABLE 6

PERCEPTIONS OF SECONDARY AGICULTURE TEACHERS TO SELECT AND/OR DEVELOP INSTRUCTIONAL CONTENT FOR A LESSON[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	91.5	93.5	92.6
Desirable	8.5	6.5	7.4
Does Not Apply	0.0	0.0	0.0
Frequency of Use:			
Daily or Weekly	82.8	81.5	82.1
Monthly	8.6	10.9	9.8
Annually	8.6	7.6	8.1
When Emphasized:			
Preservice	55.5	60.3	58.0
Inservice	37.3	25.9	31.4
Both	7.3	13.8	10.6
Type of Course:			
Specialized	65.7	73.0	69.4
Integrated	29.6	24.3	26.9
Both	4.6	2.7	3.7

N = 242

[1]Competence number 7.

TABLE 7

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DETERMINE STUDENT NEEDS AND GOALS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	91.5	93.5	92.5
Desirable	8.5	4.8	6.6
Does Not Apply	0.0	1.6	0.8
Frequency of Use:			
Daily or Monthly	55.8	59.2	57.5
Monthly	23.9	13.3	18.5
Annually	20.4	27.5	24.0
When Emphasized:[a]			
Preservice	46.2	57.5	52.2
Inservice	46.2	29.2	37.1
Both	7.7	13.3	10.7
Type of Course:			
Specialized	57.7	69.3	63.8
Integrated	37.5	26.3	31.7
Both	4.8	4.4	4.6

N = 241

[a]Significant at the 0.05 level.

[1]Competence number 15.

TABLE 8

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO EVALUATE ONE'S OWN TECHNIQUES AND METHODS OF TEACHING[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	90.4	91.9	91.2
Desirable	9.6	8.1	8.8
Does Not Apply	0.0	0.0	0.0
Frequency of Use:			
Daily of Weekly	67.8	66.1	66.9
Monthly	20.9	21.0	20.9
Annually	11.3	12.9	12.1
When Emphasized:			
Preservice	41.5	52.2	47.1
Inservice	47.2	35.7	41.2
Both	11.3	12.2	11.8
Type of Sourse:			
Specialized	57.4	68.2	63.0
Integrated	36.6	27.3	31.8
Both	5.9	4.5	5.2

N = 238

[1]Competence number 71.

TABLE 9

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO EVALUATE STUDENT'S PROGRESS IN CLASS, HOME AND LABORATORY ASSIGNMENTS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	87.9	92.7	90.4
Desirable	10.3	4.9	7.5
Does Not Apply	1.7	2.4	2.1
Frequency of Use:			
Daily or Weekly	70.8	66.4	68.5
Monthly	25.7	24.6	25.1
Annually	3.5	9.0	6.4
Where Emphasized:			
Preservice	50.0	59.3	55.0
Inservice	45.2	33.1	38.7
Both	4.8	7.6	6.3
Type of Course:			
Specialized	66.3	68.8	67.6
Integrated	27.9	28.6	28.2
Both	5.8	2.7	4.2

N = 239

[1]Competence number 57.

TABLE 10

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO CONSTRUCT A LESSON PLAN[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	88.0	87.8	87.9
Desirable	11.1	12.2	11.7
Does Not Apply	0.9	0.0	0.4
Frequency of Use:			
Daily or Weekly	87.4	81.1	84.4
Monthly	7.0	10.7	8.9
Annually	5.2	8.2	6.8
Where Emphasized:			
Preservice	66.0	68.6	67.4
Inservice	30.2	21.2	25.4
Both	3.8	10.2	7.1
Type of Course:			
Specialized	59.3	64.9	62.2
Integrated	37.0	30.7	33.8
Both	3.7	4.4	4.1

N = 240

[1]Competence number 13.

TABLE 11

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO FORMULATE OBJECTIVES FOR LESSONS, UNITS, OR COURSES[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	85.5	89.4	87.5
Desirable	14.5	10.6	12.5
Does Not Apply	0.0	0.0	0.0
Frequency of Use:			
Daily or Weekly	71.3	68.9	70.1
Monthly	13.0	12.6	12.8
Annually	15.7	18.5	17.1
Where Emphasized:[a]			
Preservice	52.8	65.5	59.5
Inservice	42.5	20.7	31.1
Both	4.7	13.8	9.5
Type of Course:			
Specialized	65.1	74.8	70.0
Integrated	32.1	21.6	26.8
Both	2.8	3.6	3.2

N = 240

[a]Significant at the 0.01 level.

[1]Competence number 6.

TABLE 12

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO EVALUATE OUTCOMES OF INSTRUCTION[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	85.5	89.3	87.4
Desirable	13.7	10.7	12.1
Does Not Apply	0.9	0.0	0.4
Frequency of Use:			
Daily or Weekly	55.0	57.7	56.4
Monthly	28.8	24.4	26.5
Annually	16.2	17.9	17.1
Where Emphasized:			
Preservice	44.2	53.1	48.8
Inservice	49.0	38.1	43.3
Both	6.7	8.8	7.8
Type of Course:			
Specialized	59.8	63.3	61.6
Integrated	38.2	32.1	35.1
Both	2.0	4.6	3.3

N = 239

[1]Competence number 70.

TABLE 13

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO INTRODUCE A LESSON[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	82.9	89.3	86.1
Desirable	15.4	9.9	12.6
Does Not Apply	1.7	0.8	1.3
Frequency of Use:[a]			
Daily or Weekly	96.5	87.3	91.8
Monthly	3.5	9.3	6.5
Annually	0.0	3.4	1.7
Where Emphasized:[a]			
Preservice	64.2	70.4	67.4
Inservice	34.9	22.6	28.5
Both	0.9	7.0	4.1
Type of Course:			
Specialized	59.2	63.1	61.2
Integrated	39.8	30.6	35.0
Both	1.0	6.3	3.7

N = 238

[a]Significant at the 0.05 level.

[1]Competence number 31.

TABLE 14

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEMONSTRATE A MANIPULATIVE SKILL[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	84.6	89.4	87.1
Desirable	13.7	8.9	11.3
Does Not Apply	1.7	1.6	1.7
Frequency of Use:			
Daily or Weekly	87.3	89.9	88.6
Monthly	10.9	9.2	10.0
Annually	1.8	0.8	1.3
Where Emphasized:			
Preservice	58.8	59.5	59.2
Inservice	33.3	27.6	30.3
Both	7.8	12.9	10.6
Type of Course:			
Specialized	62.1	69.4	65.9
Integrated	33.0	26.1	29.4
Both	4.9	4.5	4.7

N = 240

[1]Competence number 49.

TABLE 15

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO PRESENT A CONCEPT OR PRINCIPLE THROUGH A DEMONSTRATION[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	84.6	86.2	85.4
Desirable	14.5	13.8	14.2
Does Not Apply	0.9	0.0	0.4
Frequency of Use:			
Daily or Weekly	85.7	87.4	86.6
Monthly	14.3	10.9	12.6
Annually	0.0	1.7	0.9
Where Emphasized:			
Preservice	61.5	60.7	61.1
Inservice	33.7	25.6	29.4
Both	4.8	13.7	9.5
Type of Course:			
Specialized	59.8	65.5	62.7
Integrated	36.4	30.1	33.2
Both	3.7	4.4	4.1

N = 240

[1]Competence number 50.

TABLE 16

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DETERMINE IN-SCHOOL LEARNING EXPERIENCE (CLASSROOM AND LABORATORY)[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	82.1	88.4	85.3
Desirable	16.2	10.7	13.4
Does Not Apply	1.7	0.8	1.3
Frequency of Use:			
Daily or Weekly	75.2	66.7	70.9
Monthly	15.9	20.5	18.3
Annually	8.8	12.8	10.9
Where Emphasized:			
Preservice	43.3	53.1	48.4
Inservice	51.0	37.2	43.8
Both	5.8	9.7	7.8
Type of Course:			
Specialized	69.2	76.6	73.0
Integrated	27.9	18.9	23.3
Both	2.9	4.5	3.7
N = 238			

[1]Competence number 17.

TABLE 17

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO FORMULATE LONG-TERM OBJECTIVES FOR THE PROGRAM[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	83.1	87.1	85.1
Desirable	16.9	12.1	14.5
Does Not Apply	0.0	0.8	0.4
Frequency of Use:[a]			
Daily or Weekly	15.7	9.2	12.3
Monthly	16.5	7.5	11.9
Annually	67.8	83.3	75.7
Where Emphasized:[a]			
Preservice	38.7	52.1	45.7
Inservice	58.5	41.0	49.3
Both	2.8	6.8	4.9
Type of Course:			
Specialized	71.0	69.3	70.1
Integrated	26.6	28.9	27.6
Both	2.8	1.8	2.3

N = 242

[a]Significant at the 0.05 level.

[1]Competence number 3.

TABLE 18

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEVELOP COURSE OUTLINES (CONTENT)[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	81.4	87.8	84.6
Desirable	16.9	10.6	13.7
Does Not Apply	1.7	1.6	1.7
Frequency of Use:			
Daily or Weekly	23.7	20.8	22.2
Monthly	21.9	15.0	18.4
Annually	54.4	64.2	59.4
Where Emphasized:[a]			
Preservice	49.5	61.0	55.6
Inservice	44.8	28.8	36.3
Both	5.7	10.2	8.1
Type of Course:			
Specialized	68.5	77.2	73.0
Integrated	27.8	19.3	23.4
Both	3.7	3.5	3.6

N = 241

[a]Significant at the 0.05 level.

[1]Competence number 18.

TABLE 19

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO REACT TO STUDENT ACTIONS AND BEHAVIORS (CUES)[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	86.2	83.1	84.6
Desirable	12.9	15.3	14.2
Does Not Apply	0.9	1.6	1.3
Frequency of Use:			
Daily or Weekly	98.2	95.0	96.6
Monthly	0.9	5.0	3.0
Annually	0.9	0.0	0.4
Where Emphasized:			
Preservice	49.5	55.2	52.5
Inservice	45.6	36.2	40.6
Both	4.9	8.6	6.8
Type of Course:			
Specialized	55.3	61.7	58.7
Integrated	39.8	33.0	36.2
Both	4.9	5.2	5.0

N = 240

[1]Competence number 26.

TABLE 20

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO ANALYZE SKILLS (OPERATIONS, PROCEDURES) RELEVANT TO COURSE PLANNING

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	85.2	83.7	84.5
Desirable	14.8	15.4	15.1
Does Not Apply	0.0	0.8	0.4
Frequency of Use:			
Daily or Weekly	48.2	47.5	47.9
Monthly	25.4	24.2	24.8
Annually	26.3	28.3	27.4
Where Emphasized:			
Preservice	57.0	55.2	56.1
Inservice	39.3	37.9	38.6
Both	3.7	6.9	5.4
Type of Course:			
Specialized	67.9	67.9	67.9
Integrated	29.2	28.6	28.9
Both	2.8	3.6	3.2

N = 238

[1]Competence number 5.

TABLE 21

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DIRECT STUDENT LABORATORY EXPERIENCES

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	80.2	87.9	84.2
Desirable	18.1	10.5	14.2
Does Not Apply	1.7	1.6	1.7
Frequency of Use:			
Daily or Weekly	78.4	73.0	75.7
Monthly	19.8	20.9	20.4
Annually	1.8	6.1	4.0
Where Emphasized:			
Preservice	50.0	58.4	54.4
Inservice	44.1	32.7	38.1
Both	5.9	8.8	7.4
Type of Course:			
Specialized	66.3	67.0	66.7
Integrated	31.7	30.4	31.0
Both	1.9	2.7	2.3

N = 240

[1]Competence number 42.

TABLE 22

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEVELOP STANDARDS FOR STUDENT ATTAINMENT[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	82.2	85.2	83.8
Desirable	16.9	13.1	15.0
Does Not Apply	0.8	1.6	1.3
Frequency of Use:			
Daily or Weekly	65.2	61.3	63.2
Monthly	19.6	20.2	19.9
Annually	15.2	18.5	16.9
Where Emphasized:[a]			
Preservice	48.6	52.2	50.5
Inservice	50.5	36.3	43.1
Both	1.0	11.5	6.4
Type of Course:			
Specialized	61.8	67.0	64.5
Integrated	35.3	29.6	32.3
Both	2.9	3.5	3.2
N = 240			

[a]Significant at the 0.01 level.

[1]Competence number 27.

TABLE 23

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO SELECT TEACHING TECHNIQUES, STRATEGIES AND METHODS (INCLUDES INSTRUCTIONAL MEDIA AND AIDS)[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	82.8	84.3	83.5
Desirable	16.4	15.7	16.0
Does Not Apply	0.9	0.0	0.4
Frequency of Use:			
Daily or Weekly	66.7	58.7	62.6
Monthly	15.8	24.8	20.4
Annually	17.5	16.5	17.0
Where Emphasized:			
Preservice	47.1	51.3	49.3
Inservice	47.1	37.4	42.0
Both	5.8	11.3	8.7
Type of Course:			
Specialized	61.9	70.9	66.5
Integrated	34.3	26.4	30.2
Both	3.8	2.7	3.3

N = 237

[1]Competence number 20.

TABLE 24

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO EVALUATE CLASSROOM FACILITIES AND EQUIPMENT[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	83.6	82.9	83.3
Desirable	14.7	16.3	15.5
Does Not Apply	1.7	0.8	1.3
Frequency of Use:			
Daily or Weekly	33.9	36.3	35.2
Monthly	30.4	22.4	26.3
Annually	35.7	41.1	38.6
Where Emphasized:			
Preservice	40.8	50.9	46.1
Inservice	53.4	42.1	47.5
Both	5.8	7.0	6.5
Type of Course:			
Specialized	66.0	64.9	65.4
Integrated	30.1	30.6	30.4
Both	3.9	4.5	4.2

N = 239

[1]Competence number 69.

TABLE 25

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEVELOP INSTRUCTIONAL MATERIAL (INFORMATION SHEETS, TRANSPARENCIES, BULLETIN BOARD MATERIALS)[1]

Responses	Percentages		
	Beg	Exp	All
Need:[a]			
Essential	76.3	87.9	82.2
Desirable	22.9	12.1	17.4
Does Not Apply	0.8	0.0	0.4
Frequency of Use:			
Daily or Weekly	65.5	74.4	70.0
Monthly	27.6	15.7	21.5
Annually	6.9	9.9	8.4
Where Emphasized:[b]			
Preservice	45.0	53.4	49.3
Inservice	46.8	28.4	37.4
Both	8.1	18.1	13.2
Type of Course:			
Specialized	56.0	66.7	61.4
Integrated	40.4	27.2	33.6
Both	3.7	6.1	4.9

N = 242

[a]Significant at the 0.05 level.

[b]Significant at the 0.01 level.

[1]Competence number 9.

TABLE 26

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEVELOP A SYSTEM FOR RECORDING AND FILING SUBJECT MATTER MATERIALS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	79.7	83.6	81.7
Desirable	18.6	14.6	16.6
Does Not Apply	1.7	1.6	1.7
Frequency of Use:			
Daily or Weekly	63.7	56.4	60.0
Monthly	17.7	17.1	17.4
Annually	18.6	26.5	22.6
Where Emphasized:			
Preservice	47.2	59.6	53.6
Inservice	46.2	33.3	39.5
Both	6.6	7.0	6.8
Type of Course:			
Specialized	55.2	64.2	59.8
Integrated	42.9	33.9	38.3
Both	1.9	1.8	1.9

N = 241

[1]Competence number 14.

TABLE 27

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO ANALYZE THE RESULTS OF A WRITTEN TEST[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	78.4	83.6	81.1
Desirable	19.0	13.1	16.0
Does Not Apply	2.6	3.3	2.9
Frequency of Use:			
Daily or Weekly	75.7	68.9	72.1
Monthly	22.4	27.7	25.2
Annually	1.9	3.4	2.7
Where Emphasized:[a]			
Preservice	60.0	62.7	61.4
Inservice	38.0	28.2	32.9
Both	2.0	9.1	5.7
Type of Course:			
Specialized	55.0	59.6	57.4
Integrated	43.0	37.5	40.2
Both	2.0	2.9	2.5

N = 238

[a]Significant at the 0.05 level.

[1]Competence number 68.

TABLE 28

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO GUIDE STUDENTS IN KEEPING RECORDS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	76.1	85.4	80.8
Desirable	21.4	14.6	17.9
Does Not Apply	2.6	0.0	1.3
Frequency of Use:			
Daily or Weekly	70.5	68.9	69.7
Monthly	25.9	30.3	28.2
Annually	3.6	0.8	2.1
Where Emphasized:[a]			
Preservice	53.8	59.3	56.7
Inservice	44.2	31.9	37.8
Both	1.9	8.8	5.5
Type of Course:			
Specialized	67.0	75.2	71.2
Integrated	30.2	20.4	25.1
Both	2.8	4.4	3.7

N = 240

[a]Significant at the 0.05 level.

[1]Competence number 30.

TABLE 29

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO ADMINISTER TESTS[1]

Responses	Percentages		
	Beg	Exp	All
Need:[a]			
Essential	75.0	85.4	80.3
Desirable	24.1	12.2	18.0
Does Not Apply	0.9	2.4	1.7
Frequency of Use:			
Daily or Weekly	75.2	70.8	72.9
Monthly	21.1	25.8	23.6
Annually	3.7	3.3	3.5
Where Emphasized:			
Preservice	60.6	65.2	63.0
Inservice	36.5	28.6	32.4
Both	2.9	6.3	4.6
Type of Course:			
Specialized	52.0	59.4	55.8
Integrated	44.1	37.7	40.9
Both	3.9	2.8	3.4

N = 239

[a]Significant at the 0.05 level.

[1]Competence number 67.

TABLE 30

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO PRESENT A LESSON WITH THE AID OF A CHALKBOARD[1]

Responses	Percentages		
	Beg	Exp	All
Need:[a]			
Essential	73.7	85.4	79.7
Desirable	25.4	13.0	19.1
Does Not Apply	0.8	1.6	1.2
Frequency of Use:			
Daily or Weekly	90.2	88.7	89.4
Monthly	8.0	8.7	8.4
Annually	1.8	2.6	2.2
Where Emphasized:			
Preservice	61.9	69.0	65.6
Inservice	34.3	22.4	28.1
Both	3.8	8.6	6.3
Type of Course:			
Specialized	56.2	59.5	57.9
Integrated	41.0	36.9	38.9
Both	2.9	3.6	3.2
N = 241			

[a]Significant at the 0.05 level.

[1]Competence number 48.

TABLE 31

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO USE PROBLEM-SOLVING TECHNIQUES[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	73.7	84.8	79.4
Desirable	24.6	12.8	18.5
Does Not Apply	1.7	2.4	2.1
Frequency of Use:			
Daily or Weekly	85.5	85.3	85.4
Monthly	13.6	12.9	13.3
Annually	0.9	1.7	1.3
Where Emphasized:[a]			
Preservice	59.6	65.0	62.4
Inservice	36.5	23.9	29.9
Both	3.8	11.1	7.7
Type of Course:			
Specialized	59.8	69.0	64.5
Integrated	37.4	27.4	32.3
Both	2.8	3.5	3.2

N = 243

[a]Significant at the 0.05 level.

[1]Competence number 45.

TABLE 32

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO GUIDE STUDENTS IN ANALYZING THEIR RECORDS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	74.1	83.3	78.8
Desirable	22.4	15.8	19.1
Does Not Apply	3.4	0.8	2.1
Frequency of Use:			
Daily or Weekly	40.8	47.9	44.5
Monthly	45.6	36.8	40.9
Annually	13.6	15.4	14.5
Where Emphasized:			
Preservice	46.0	54.0	50.2
Inservice	51.0	39.8	45.1
Both	3.0	6.2	4.7
Type of Course:			
Specialized	69.7	71.8	70.8
Integrated	27.3	24.5	25.8
Both	3.0	3.6	3.3

N = 236

[1]Competence number 54.

TABLE 33

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO EVALUATE TEST AND REFERENCE MATERIALS TO MEET COURSE OBJECTIVES[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	76.9	80.5	78.8
Desirable	23.1	17.9	20.4
Does Not Apply	0.0	1.6	0.8
Frequency of Use:			
Daily or Weekly	19.5	24.8	22.2
Monthly	23.9	22.3	23.1
Annually	56.6	52.9	54.7
Where Emphasized:			
Preservice	41.7	44.9	43.4
Inservice	54.4	46.6	50.2
Both	3.9	8.5	6.3
Type of Course:			
Specialized	64.1	66.1	65.1
Integrated	31.1	30.4	30.7
Both	4.9	3.6	4.2

N = 240

[1]Competence number 55.

TABLE 34

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO EVALUATE ACCOMPLISHMENTS OF THE FFA CHAPTER[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	74.1	82.0	78.2
Desirable	18.1	15.6	16.8
Does Not Apply	7.8	2.5	5.0
Frequency of Use:			
Daily or Weekly	31.4	42.9	37.6
Monthly	51.0	38.7	44.3
Annually	17.6	18.5	18.1
Where Emphasized:			
Preservice	51.6	52.2	51.9
Inservice	45.3	40.9	42.9
Both	3.2	7.0	5.2
Type of Course:			
Specialized	80.7	79.1	79.9
Integrated	18.1	18.2	18.1
Both	1.1	2.7	2.0

N = 238

[1]Competence number 60.

TABLE 35

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DIRECT PROGRAMMED INSTRUCTION (TEACHING MACHINE OR TEXT)[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	71.1	80.6	75.5
Desirable	29.9	19.4	24.5
Does Not Apply	0.0	0.0	0.0
Frequency of Use:[a]			
Daily or Weekly	16.8	31.4	24.2
Monthly	69.0	58.5	63.6
Annually	14.2	10.2	12.1
Where Emphasized:			
Preservice	42.3	56.3	49.5
Inservice	52.9	36.6	44.4
Both	4.8	7.1	6.0
Type of Course:			
Specialized	64.1	62.3	63.1
Integrated	32.0	32.5	32.3
Both	3.9	5.3	4.6

N = 241

[a]Significant at the 0.05 level.

[1]Competence number 41.

TABLE 36

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO ORGANIZE THE SEQUENCE OF LEARNING TASKS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	72.9	77.5	75.2
Desirable	26.3	20.8	23.5
Does Not Apply	0.8	1.7	1.3
Frequency of Use:			
Daily or Weekly	57.5	53.8	55.7
Monthly	23.0	22.2	22.6
Annually	19.5	23.9	21.7
Where Emphasized:			
Preservice	48.6	53.9	51.4
Inservice	49.5	39.1	44.1
Both	1.9	7.0	4.5
Type of Course:			
Specialized	59.4	68.7	64.3
Integrated	37.7	29.6	33.5
Both	2.8	1.7	2.3

N = 238

[1]Competence number 21.

TABLE 37

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO ESTABLISH EVALUATIVE CRITERIA FOR LESSONS, UNITS OR COURSES[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	73.0	77.0	75.1
Desirable	25.2	20.5	22.8
Does Not Apply	1.7	2.5	2.1
Frequency of Use:			
Daily or Weekly	36.6	40.5	38.6
Monthly	30.4	25.6	27.9
Annually	33.0	33.9	33.5
Where Emphasized:[a]			
Preservice	44.7	52.6	48.8
Inservice	53.4	36.0	44.2
Both	1.9	11.4	6.9
Type of Course:			
Specialized	62.1	67.0	64.6
Integrated	35.0	28.4	31.6
Both	2.9	4.6	3.8

N = 237

[a]Significant at the 0.01 level.

[1]Competence number 56.

TABLE 38

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO USE SMALL-GROUP INSTRUCTION[1]

Responses	Percentages		
	Beg	Exp	All
Need:[a]			
Essential	66.1	82.1	74.3
Desirable	31.4	17.1	24.1
Does Not Apply	2.5	0.8	1.7
Frequency of Use:			
Daily or Weekly	80.9	80.5	80.7
Monthly	17.3	17.8	17.5
Annually	1.8	1.7	1.8
Where Emphasized:[b]			
Preservice	57.8	71.3	65.0
Inservice	39.2	20.9	29.5
Both	2.9	7.8	5.5
Type of Course:			
Specialized	55.2	70.2	63.0
Integrated	41.9	27.2	34.2
Both	2.9	2.6	2.7

N = 241

[a]Significant at the 0.05 level.

[b]Significant at the 0.01 level.

[1]Competence number 46.

TABLE 39

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO GUIDE STUDENTS IN SETTING STANDARDS AND EVALUATING PROGRESS IN THEIR PROGRAMS[1]

Responses	Percentages		
	Beg	Exp	All
Need:[a]			
Essential	67.8	80.3	74.2
Desirable	29.7	19.7	24.6
Does Not Apply	2.5	0.0	1.3
Frequency of Use:			
Daily or Weekly	64.0	69.2	66.7
Monthly	30.6	23.9	27.2
Annually	5.4	6.8	6.1
Where Emphasized:			
Preservice	49.5	49.1	49.3
Inservice	48.6	42.9	45.6
Both	1.9	8.0	5.1
Type of Course:			
Specialized	65.4	63.3	64.3
Integrated	31.7	32.1	31.9
Both	2.9	4.6	3.8

N = 240

[a]Significant at the 0.05 level.

[1]Competence number 29.

TABLE 40

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO GIVE AN ILLUSTRATED TALK[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	71.8	74.0	72.9
Desirable	25.6	21.1	23.3
Does Not Apply	2.6	4.9	3.8
Frequency of Use:			
Daily or Weekly	80.9	76.8	78.8
Monthly	17.3	17.9	17.6
Annually	1.8	5.4	3.6
Where Emphasized:			
Preservice	61.2	65.5	63.4
Inservice	35.9	25.5	30.5
Both	2.9	9.1	6.1
Type of Course:			
Specialized	57.1	63.2	60.2
Integrated	40.0	34.0	37.0
Both	2.9	2.8	2.8

N = 240

[1]Competence number 44.

TABLE 41

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO EVALUATE PROJECTS IN AGRICULTURAL MECHANICS[1]

Responses	Percentages		
	Beg	Exp	All
Need:[a]			
Essential	64.3	80.5	72.7
Desirable	15.7	10.6	13.0
Does Not Apply	20.0	8.9	14.3
Frequency of Use:			
Daily or Weekly	64.4	75.2	70.4
Monthly	31.1	22.1	26.1
Annually	4.4	2.7	3.4
Where Emphasized:			
Preservice	55.3	58.7	57.2
Inservice	42.4	33.9	37.6
Both	2.4	7.3	5.2
Type of Course:			
Specialized	80.0	79.4	79.7
Integrated	18.8	17.8	18.2
Both	1.2	2.8	2.1

N = 238

[a]Significant at the 0.05 level.

[1]Competence number 59.

TABLE 42

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO UTILIZE SUPERVISED STUDY[1]

Responses	Percentages		
	Beg	Exp	All
Need:[a]			
Essential	61.5	79.8	71.0
Desirable	35.0	17.7	26.1
Does Not Apply	3.4	2.4	2.9
Frequency of Use:			
Daily or Weekly	78.0	81.0	79.6
Monthly	21.1	15.5	18.2
Annually	0.9	3.4	2.2
Where Emphasized:			
Preservice	56.0	71.3	64.2
Inservice	39.0	24.3	31.2
Both	5.0	4.3	4.7
Type of Course:			
Specialized	62.1	67.3	64.8
Integrated	35.6	30.1	32.9
Both	1.9	2.7	2.3

N = 241

[a]Significant at the 0.01 level.

[1]Competence number 47.

TABLE 43

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEVELOP WRITTEN GOALS AND OBJECTIVES TO BE ATTAINED IN THE INSTRUCTION OF EACH CLASS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	67.8	74.0	71.0
Desirable	31.4	24.4	27.6
Does Not Apply	0.8	1.6	1.2
Frequency of Use:			
Daily or Weekly	50.5	54.2	52.4
Monthly	22.5	16.1	19.2
Annually	27.0	29.7	28.4
Where Emphasized:[a]			
Preservice	56.6	57.4	57.0
Inservice	40.6	28.7	34.4
Both	2.8	13.9	8.6
Type of Course:			
Specialized	64.8	71.9	68.5
Integrated	33.3	25.4	29.2
Both	1.9	2.6	2.3

N = 241

[a]Significant at the 0.01 level.

[1]Competence number 16.

TABLE 44

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO OBTAIN CLOSURE FOR A LESSON[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	67.0	74.4	70.8
Desirable	29.6	21.5	25.4
Does Not Apply	3.5	4.1	3.8
Frequency of Use:			
Daily or Weekly	90.3	88.4	89.3
Monthly	8.7	10.7	9.8
Annually	1.0	0.9	0.9
When Emphasized:			
Preservice	58.0	64.3	61.3
Inservice	39.0	30.4	34.4
Both	3.0	5.4	4.2
Type of Course:			
Specialized	59.2	59.8	59.5
Integrated	37.8	36.4	37.1
Both	3.1	3.7	3.4

N = 236

[1]Competence number 52.

TABLE 45

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO INVOLVE ADMINISTRATORS AND TEACHERS IN PROGRAM PLANNING[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	68.4	72.6	70.5
Desirable	29.9	26.6	28.2
Does Not Apply	1.7	0.8	1.2
Frequency of Use:			
Daily or Weekly	16.7	15.3	15.9
Monthly	26.3	26.3	26.3
Annually	57.0	58.5	57.8
When Emphasized:[a]			
Preservice	36.2	47.5	42.2
Inservice	62.9	47.5	54.7
Both	1.0	5.0	3.1
Type of Course:			
Specialized	47.1	60.0	53.8
Integrated	49.0	37.3	42.9
Both	3.9	2.9	3.3

N = 241

[a]Significant at the 0.05 level.

[1]Competence number 4.

TABLE 46

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEVELOP STRATEGIES TO ASSIST STUDENTS IN SELECTING OCCUPATIONAL EXPERIENCE PROGRAMS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	65.0	74.6	69.9
Desirable	32.5	23.8	28.0
Does Not Apply	2.6	1.6	2.1
Frequency of Use:			
Daily or Weekly	42.0	37.1	39.5
Monthly	30.4	36.2	33.3
Annually	27.7	26.7	27.2
Where Emphasized:			
Preservice	40.8	46.1	43.6
Inservice	53.4	45.2	49.1
Both	5.8	8.7	7.3
Type of Course:			
Specialized	71.2	71.3	71.2
Integrated	26.0	23.5	24.7
Both	2.9	5.0	4.1

N = 239

[1]Competence number 23.

TABLE 47

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEVELOP PROCEDURE TO INSURE STUDENT-LEARNER'S SAFETY AND PROTECTION[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	72.4	81.0	76.8
Desirable	14.7	8.3	11.4
Does Not Apply	12.9	10.7	11.8
Frequency of Use:			
Daily or Weekly	40.2	45.0	42.7
Monthly	26.8	22.9	24.8
Annually	33.0	32.1	32.5
Where Emphasized:			
Preservice	38.5	47.1	43.0
Inservice	54.9	44.1	49.2
Both	6.6	8.8	7.8
Type of Course:			
Specialized	60.9	67.6	64.4
Integrated	34.8	28.4	31.4
Both	4.3	3.9	4.1

N = 237

[1]Competence number 11.

TABLE 48

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO IMPLEMENT SAFETY PROCEDURES[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	94.0	96.0	95.0
Desirable	5.1	4.0	4.6
Does Not Apply	0.9	0.0	0.4
Frequency of Use:			
Daily or Weekly	69.0	69.7	69.4
Monthly	12.4	10.1	11.2
Annually	18.6	20.2	19.4
Where Emphasized:			
Preservice	47.6	48.3	47.9
Inservice	42.7	38.8	40.6
Both	9.7	12.9	11.4
Type of Course:			
Specialized	65.0	67.8	66.5
Integrated	28.2	27.0	27.5
Both	6.8	5.2	6.0

N = 241

[1]Competence number 5.

TABLE 49

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO MAINTAIN EQUIPMENT AND TOOLS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	91.4	96.0	93.8
Desirable	7.8	1.6	4.6
Does Not Apply	0.9	2.4	1.7
Frequency of Use:			
Daily or Weekly	78.9	68.4	73.5
Monthly	11.9	16.2	14.2
Annually	9.2	15.4	12.4
Where Emphasized:			
Preservice	47.1	54.0	50.7
Inservice	43.1	36.3	39.5
Both	9.8	9.7	9.8
Type of Course:			
Specialized	67.6	70.5	69.2
Integrated	29.4	26.8	28.0
Both	2.9	2.7	2.8

N = 240

[1]Competence number 12

TABLE 50

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS[1] TO MAXIMIZE USE OF STUDENT'S TIME AND EQUIPMENT

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	88.8	88.7	88.8
Desirable	9.5	8.9	9.2
Does Not Apply	1.7	2.4	2.1
Frequency of Use:			
Daily or Weekly	88.9	85.3	87.1
Monthly	3.7	8.6	6.3
Annually	7.4	6.0	6.7
Where Emphasized:			
Preservice	52.4	49.6	50.9
Inservice	39.8	41.6	40.7
Both	7.8	8.8	8.3
Type of Course:			
Specialized	69.3	72.1	70.8
Integrated	26.7	25.2	25.9
Both	4.0	2.7	3.3

N = 240

[1]Competence number 15.

TABLE 51

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEVELOP A SYSTEM FOR CLEANING AND MAINTAINING THE LABORATORY[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	89.7	87.7	88.7
Desirable	8.5	8.2	8.4
Does Not Apply	1.7	4.1	2.9
Frequency of Use:			
Daily or Weekly	79.1	75.9	77.4
Monthly	8.2	10.3	9.3
Annually	12.7	13.8	13.3
Where Emphasized:			
Preservice	49.0	54.5	51.9
Inservice	42.2	37.5	39.7
Both	8.8	8.0	8.4
Type of Course:			
Specialized	64.7	69.1	67.0
Integrated	31.4	28.2	29.7
Both	3.9	2.7	3.3

N = 239

[1]Competence number 16.

TABLE 52

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO ARRANGE MECHANICAL DETAILS OF THE CLASSROOM AND LABORATORY[1]

Responses	Percentages		
	Beg	Exp	All
Need:[a]			
Essential	73.3	87.0	80.3
Desirable	20.7	8.1	14.2
Does Not Apply	6.0	4.9	5.4
Frequency of Use:			
Daily or Weekly	46.6	55.3	51.2
Monthly	27.2	18.4	22.6
Annually	26.2	26.3	26.3
Where Emphasized:			
Preservice	46.4	50.9	48.8
Inservice	49.5	40.7	44.9
Both	4.1	8.3	6.3
Type of Course:			
Specialized	67.0	74.1	70.7
Integrated	30.9	24.1	27.3
Both	2.1	1.9	2.0

N = 239

[a]Significant at the 0.05 level.

[1]Competence number 13.

TABLE 53

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO ESTABLISH DETAILED RULES AND REGULATIONS FOR LABORATORY PARTICIPATION[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	78.1	78.2	78.2
Desirable	18.4	15.3	16.8
Does Not Apply	3.5	6.5	5.0
Frequency of Use:			
Daily or Weekly	32.7	30.1	31.4
Monthly	15.0	12.4	13.6
Annually	52.3	57.5	55.0
Where Emphasized:			
Preservice	42.6	46.4	44.6
Inservice	49.5	45.5	47.4
Both	7.9	8.0	8.0
Type of Course:			
Specialized	63.6	67.9	65.9
Integrated	32.3	29.4	30.8
Both	4.0	2.8	3.4

N = 238

[1]Competence number 4.

TABLE 54

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO IMPLEMENT SYSTEM FOR PROVIDING CONSUMABLE SUPPLIES[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	70.7	82.9	77.0
Desirable	19.8	12.2	15.9
Does Not Apply	9.5	4.9	7.1
Frequency of Use:[a]			
Daily or Weekly	23.8	12.4	17.8
Monthly	25.7	18.6	22.0
Annually	50.5	69.0	60.3
Where Emphasized:			
Preservice	36.5	50.9	44.1
Inservice	56.3	43.4	49.5
Both	7.3	5.7	6.4
Type of Course:			
Specialized	64.2	68.5	66.5
Integrated	33.7	30.6	32.0
Both	2.1	0.9	1.5
N = 239			

[a]Significant at the 0.05 level.

[1]Competence number 11.

TABLE 55

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO PARTICIPATE IN CONFERENCES TO COORDINATE ACTIVITIES IN LOCAL DEPARTMENT[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	78.4	74.8	76.6
Desirable	17.2	18.7	18.0
Does Not Apply	4.3	6.5	5.4
Frequency of Use:			
Daily or Weekly	29.2	34.5	32.0
Monthly	48.1	41.6	44.7
Annually	22.6	23.6	23.3
Where Emphasized:			
Preservice	36.0	43.4	39.8
Inservice	60.0	48.1	53.9
Both	4.0	8.5	6.3
Type of Course:			
Specialized	64.6	69.4	67.1
Integrated	33.3	27.8	30.4
Both	2.0	2.8	2.4

N = 239

[1]Competence number 17.

TABLE 56

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO PREPARE A PROGRAM BUDGET[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	78.3	73.8	75.9
Desirable	16.5	19.7	18.1
Does Not Apply	5.2	6.6	5.9
Frequency of Use:			
Daily or Weekly	7.5	7.2	7.4
Monthly	6.6	3.6	5.1
Annually	85.8	89.2	87.6
Where Emphasized:			
Preservice	44.3	47.2	45.9
Inservice	48.5	48.1	48.3
Both	7.2	4.6	5.9
Type of Course:			
Specialized	62.9	69.1	66.2
Integrated	34.0	29.1	31.4
Both	3.1	1.8	2.4

N = 237

[1]Competence number 10.

TABLE 57

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO SCHEDULE STUDENT'S WORK STATION AND STORAGE SPACE IN LABORATORY OR SHOP[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	74.1	74.2	74.2
Desirable	18.1	20.2	19.2
Does Not Apply	7.8	5.6	6.7
Frequency of Use:			
Daily or Weekly	67.0	54.1	60.3
Monthly	16.5	27.9	22.4
Annually	16.5	18.0	17.3
Where Emphasized:			
Preservice	50.5	47.2	48.8
Inservice	46.4	46.2	46.3
Both	3.1	6.6	4.9
Type of Course:			
Specialized	67.3	70.1	68.8
Integrated	29.6	27.1	28.3
Both	3.1	2.8	2.9

N = 240

[1]Competence number 14.

TABLE 58

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO DEVELOP OUTLINE TO GUIDE STUDENTS IN WRITING OBJECTIVES FOR FFA PROGRAM OF WORK[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	71.6	71.5	71.5
Desirable	19.0	22.0	20.5
Does Not Apply	9.5	6.5	7.9
Frequency of Use:			
Daily or Weekly	18.0	14.0	15.9
Monthly	30.0	21.1	25.2
Annually	52.0	64.9	58.9
Where Emphasized:			
Preservice	44.8	53.3	49.3
Inservice	50.0	36.2	42.8
Both	5.2	10.5	8.0
Type of Course:			
Specialized	77.9	74.8	76.2
Integrated	20.0	23.4	21.8
Both	2.1	1.9	2.0

N = 239

[1]Competence number 18.

TABLE 59

PERCEPTIONS OF SECONDARY AGRICULTURE TEACHERS TO PREPARE PROGRAM EVALUATION REPORTS[1]

Responses	Percentages		
	Beg	Exp	All
Need:			
Essential	70.4	71.0	70.7
Desirable	25.2	25.0	25.1
Does Not Apply	4.3	4.0	4.2
Frequency of Use:[a]			
Daily or Weekly	14.3	10.3	12.2
Monthly	33.3	20.7	26.7
Annually	52.4	69.0	61.1
Where Emphasized:			
Preservice	44.2	45.3	44.8
Inservice	50.5	45.3	47.8
Both	5.3	9.4	7.5
Type of Course:			
Specialized	70.4	71.6	71.0
Integrated	27.6	26.6	27.1
Both	2.0	1.8	1.9
N = 239			

[a]Significant at the 0.05 level.

[1]Competence number 19.

TABLE 60

AVERAGE RESPONSES TO THE INSTRUCTIONAL COMPETENCIES RATED ESSENTIAL

Responses	Percentages
Frequency of Use:	
Daily or Weekly	61.73
Monthly	21.25
Annually	17.02
Where Emphasized:	
Preservice	54.85
Inservice	38.26
Both	6.88
Type of Course:	
Specialized	65.36
Integrated	31.20
Both	3.43
N = 42	

TABLE 61

AVERAGE RESPONSE TO THE COORDINATION COMPETENCIES RATED ESSENTIAL

Responses	Percentages
Frequency of Use:	
Daily or Weekly	42.7
Monthly	24.8
Annually	32.5
Where Emphasized:	
Preservice	43.0
Inservice	49.2
Both	7.8
Type of Course:	
Specialized	64.4
Integrated	31.4
Both	4.1

N = 1

TABLE 62

AVERAGE RESPONSES TO THE MANAGEMENT COMPETENCIES RATED ESSENTIAL

Responses	Percentages
Frequency of Use:	
Daily or Weekly	44.63
Monthly	18.60
Annually	36.80
Where Emphasized:	
Preservice	47.29
Inservice	45.11
Both	7.60
Type of Course:	
Specialized	68.82
Integrated	28.36
Both	2.82

N = 12

VITA

Roy Kyle Norris was born in Lenoir City, Tennessee on January 16, 1936. He attended elementary school at New Providence and Eatons Cross Roads in Loudon County and was graduated from Lenoir City High School in 1954. After graduation, he enlisted in the United States Air Force, and served until December, 1957.

Following his release from active duty in the Air Force, he entered the University of Tennessee at Knoxville. He received his Bachelor of Science degree in Agricultural Education in August, 1961. In the Fall of 1961, he accepted a position teaching vocational agriculture at Claiborne County High School in Tazewell, Tennessee. While working as an agriculture teacher at Tazewell, he earned a Master's degree in 1965 from the University of Tennessee in Knoxville with a major in agricultural education and a minor in agricultural economics.

In September, 1971, he accepted an EPDA Fellowship for advanced study in vocational-technical education. After entering the University of Tennessee at Knoxville in 1971, he pursued the Doctor of Education degree in Vocational-Technical Education. In September, 1973, he returned to Claiborne County Schools as Coordinator of Career Education as he continued his research toward graduation. In February, 1974, he moved into the central office and assumed the duties of Administrative Assistant to the Superintendent of Schools of Claiborne County where he is currently employed. In March, 1975, he was awarded the Doctor of Education degree.

He is married to the former Etta Jane Hayes of Tazewell, Tennessee, and is the father of two sons, David Michael and Jeffrey Scott.